

# AMERICAN NURSERYMAN

*The Nurseryman's Forte: To Make America More Beautiful and Fruitful*

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*The Nurseryman's Forte: To Make America More Beautiful and Fruitful*

VOL. XCI, No. 10

MAY 15, 1950

Founded 1904

With which was merged 1939

THE NATIONAL NURSERYMAN

Established 1893

\* \* \* \* \*

Published on the

first and fifteenth

of each month by the

AMERICAN NURSERYMAN  
PUBLISHING COMPANY

343 South Dearborn Street,

Chicago 4, Illinois.

Telephone: WAbash 2-8194

\* \* \* \* \*

Subscription Price:

\$3.00 per year; outside

United States, \$4.00;

Single Copies, 15c.

\* \* \* \* \*

Advertising Rates

on application.

Forms close fifteen days

before date of issue.

\* \* \* \* \*

Entered as second-class matter  
December 14, 1933, at Chicago,  
Ill., under act of March 3, 1879.

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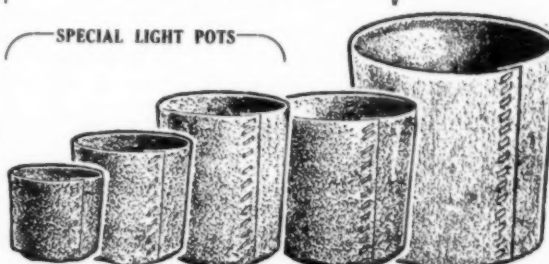


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## AMERICAN NURSERYMAN

F. R. KILNER, *Editor and Publisher*

Joan L. Kilner, *Assistant Editor*

### Editorial

#### JOBS OPEN.

The spring increase in jobs in factories and on farms added over a million persons to the number of employed in the month of April. According to the census bureau, the number of unemployed was cut to the lowest level since December, when winter weather curtailed building construction, farming and some other activities.

This is a brighter picture than the one painted at Washington a month before, when the Department of Labor was responsible for the statement that some 1,750,000 leaving school this year would face the toughest hunt for jobs in the past decade. Of these, said the Department of Labor officials, over one-third would replace workers who died, retired or quit, but perhaps one million would join the ranks of the unemployed, sending the jobless figure past five million by July. Actually, the April figure of unemployment was in the neighborhood of 3,500,000.

In painting the gloomy picture of unemployment, the Department of Labor officials listed as the best chances for beginners assistant bookkeepers, general clerks, practical nurses, carpenters' helpers, sewing machine operators and farm hands, among others of similar ilk. A booklet issued as a job guide for young workers seemed to infer that the only business openings were minor capacities in which one could work for somebody else, presumably a large corporation. Perhaps that is the type of help which passes through the government employment offices of the country. Such limitations, however, by no means confront the persons, young or old, who seek for current employment in this country.

The greatest proportion of business done in this country, and the greatest employment given, is that of millions of small enterprises, such as those common to the nursery industry. Viewing a field with which one is familiar, one sees on every hand opportunities that are being grasped by young men who are entering business on their own or who are striking an ambitious path in another's employ. Anyone who wants to get ahead in the nursery field has as good an opportunity today as he ever has

### The Mirror of the Trade

had. In fact, the opportunities are better, because there are more families with sufficient income to purchase flowers and plants, and more homes whose owners can afford to plant them with gardens. Good salesmen are scarce. Good managers are even scarcer.

How many of the high school and college graduates of 1950 join the ranks of the unemployed will depend upon their attitude. If they want a comfortable job with good pay while they put in eight hours watching the clock, they will have to look awhile. If they are anxious to get out and render a service in their own community, making a place for themselves either independently or in someone's employ, they will undoubtedly be welcome. At least, they will be given a chance to work and an opportunity to demonstrate their ability. That is all a self-respecting young man should ask, and he will not be disappointed.

#### FARM PROGRAM A PROBLEM.

When surpluses caused farm prices to sink during an era of high prices for manufactured goods, a quarter century ago, the government instituted a program of farm price support. Today, the federal government has four billion dollars invested in farm surpluses, and a report from Washington states that only an unexpected major crop failure will prevent the figure from soaring higher. The plan of purchasing farm surpluses is a law enacted by Congress, the representatives of the citizens of the United States, and is not a ruling or order of the Department of Agriculture.

In the face of this situation, federal officials state that farmers will harvest their fourth largest crop. Of seven major crops, the plantings will exceed those made last year.

The situation is a strange one. Hungry people in other parts of the world, and even in our own country, do not have money enough to pay prices which will support the farmer to the extent that Congress thinks he should be supported. So the federal government rigs the market—according to a procedure which the government forbids on Wall street—and then gives apples to school children or dumps potatoes after dyeing them or gives them back to the farmer to use as fertilizer.

If yearly increasing surpluses add

to the millions, and even billions, of dollars which Washington must invest in crop surpluses, there surely will be a demand that Congress regulate, as already has been suggested, the quantities which farmers may produce. But farmers do not wish to be told how to operate their farms, any more than businessmen wish to be subjected to bureaucratic regulation in the operation of their respective businesses.

The attitude of the farmer is responsible for the dilemma into which our government is being forced. If the farmer persists in planting larger crops when he knows that the market is oversupplied, he is himself to blame. But when he is paid for his larger production, he is only succumbing to the general temptation to share in easy money. The farmer is provided this easy money through taxes, although he perhaps gets more of it than many of his fellow taxpayers who are not engaged in farming.

Responsibility is necessary for the continuation of private enterprise as it has been successful in this country. Such responsibility is that of the individual. If he is fair-minded and seeks to do what is right for himself and for others, we shall not have an exorbitant farm program, with resulting programs that induce a form of government we fear. The same responsibility rests on businessmen and wage earners, as well as farmers. The American way provides for independence of action, but it also implies responsibility in choice.

#### EUONYMUS OR YEWS?

A gang of nursery laborers, most of them Indians, were loafing on their job of digging and baling some specimen taxus. Suddenly they saw the foreman, also an Indian, coming toward them, shouting and waving his arms, obviously indignant at their gold-bricking. One of the men decided to brazen the matter out and, as the foreman came up, he asked him.

"What's the matter? Euonymus?"

"Heck, no!" replied the foreman. "Me wan' um yews."

Raymond E. Lee.

FORMERLY a partner in Edward V. Stickler & Sons Nursery, Clarence E. Stickler is now growing dahlias, gladioli and perennials on R. R. 1, Hardinsburg, Ind.

# Use of Sawdust for Ericaceous Crops

By James S. Wells

There can hardly be a grower who has not at some time or other wondered whether sawdust could not be used for soil conditioning. If one mentions the subject among a group of nurserymen, almost invariably you will be told that they had thought of using it or had tried it in a small way some years back, but heard that it could poison the ground, that turpentine in the sawdust would be seriously detrimental. Others will say that moderate quantities of hardwood sawdust are all right, but that under no circumstances should one use pine. Rarely do you meet a man who gives unqualified support to the general use of any type of sawdust.

In our present search for humus materials to apply to the soil, it seemed to me that sawdust should be of value; so last winter I tried to gather together all the available information on the use of this material. The lack of information was astonishing. I feel quite sure, however, that the small amount of published information I have been able to discover does not represent all that there is, but, as a result of gathering this information, we came to the conclusion that sawdust could be used, particularly for ericaceous crops such as rhododendrons, azaleas, pieris and other similar humus-loving plants.

What first stimulated me into action on this problem was a reference in the 1947 Rhododendron Yearbook of the Royal Horticultural Society by Edgar F. Stead on his use of sawdust in New Zealand. I should like to quote verbatim from his article because it seems to me to put the matter clearly. He was discussing the question of soil conditioning for the proper growing of rhododendrons on heavy soil. He wrote: "Being afflicted with a soil with a tendency to 'cake' I tried various schemes for keeping it open until, some fifteen years ago, I tried sawdust. The results were so spectacular that I have used it in large quantities ever since. I am fortunate in being nearer to a mill than its sawdust dump, and I can get quantities for the asking. It is almost entirely sawdust from *Pinus radiata*, and I use it as a mulch, or dig it in, fresh and green, straight from the mill. It is most useful for covering a good layer of fresh leaves, to stop them blowing away, but by itself, a layer four to six inches thick has

wonderful moisture-retaining properties. I have used many hundreds of cubic yards of it and to date have found nothing that did not benefit from it. Magnolias particularly thrive on it and will layer in it readily, even those that are regarded as difficult to layer in ordinary soil."

With this clear-cut opinion before me, we set out to find out what was known in this country. It seems a lot of people had used sawdust in a moderate way, but few people had published their results. In July, 1944, there was a brief reference to the use of sawdust in the book, "Farm Research," a quarterly bulletin of the Cornell agricultural experiment station. It unconditionally recommended the use of sawdust, saying that it makes an excellent mulch for fruit growers and horticultural products generally. It reported that examples can be cited where sawdust has been used successfully in orchards for years, while it has proved especially effective in blueberry planting. Also in 1944 the Alabama agricultural experiment station published an interesting brochure on "The Effect of Sawdust on the Production of Tomatoes," and anyone who is interested in the subject should get a copy.

Now to come down to our experiments and the results we have obtained. With this information before us and with the general opinion that sawdust was not harmful, we em-

barked on a moderate use of sawdust last spring. We grow large quantities of *Rhododendron ponticum* for grafting understocks, and we decided to replace one-third of the normal quantity of peat moss used with sawdust and to rototill the mixture into the beds in the usual way. One bed was prepared without sawdust as a check. The results can be seen in the illustration on this page. These plants were lifted at the end of October and transferred to pots for grafting during the winter, and the clear glossy green of the foliage together with the vigorous root development can clearly be seen.

We are convinced from these experiments that sawdust is an excellent material for using as a soil conditioner in growing acid-loving plant material, and we intend to use sawdust in ever-increasing quantities for this purpose. We have found, however, that, in order to do this, a somewhat different technique is required to cope with the sawdust. When sawdust is applied to the soil and it commences to break down, all the available nitrogen in the soil is required by the bacteria which are working on the sawdust, and this results in a serious nitrogen deficiency. It is temporary, but it can seriously affect the development of the plants in the early stages.

This was particularly noticeable in our *Rhododendron ponticum* beds



Lifting *Rhododendron Ponticum* Grown in One-third Sawdust.





Two-inch mulch of sawdust on 1-year-old Azalea Hinodegiri, applied just after planting.

when, after making a rapid root growth in the first three weeks, the plants within two or three days began to turn yellow. This was not due to chlorosis, but was entirely due to lack of nitrogen. We had, therefore, to apply successive dressings of nitrogen in an organic form, using tankage for this purpose. Throughout the season, we applied four such dressings at the rate of 250 pounds to the acre, and the effect of each dressing could be seen in a deepening of the color of the leaves within a week of application.

Care is necessary in applying this nitrogen, however, because both rhododendrons and azaleas are highly susceptible to excessive quantities of nitrogen. The rule should be, therefore, little and often. As the second and third dressings were applied, the sawdust began to break down, and we found that the yellowing of the leaves became less apparent. Toward the end of the season, from October onward, the plants grew vigorously and without any sign of starvation. At the end of October, the plants were lifted and potted. We tested the soil, and there seemed to be an abundant supply of nitrogen; we therefore removed these plants for potting, and the small ones, of which there are always a few, were planted right back into the same beds after they had been rototilled and without the addition of any more peat or humus material of any kind. We believe that there are sufficient humus and also sufficient nitrogen in the ground to carry these plants through their second and possibly third year. Next season will determine whether we are correct.

Following the success of these

tests in beds, we have gone a step further. When sawdust is applied to the soil, an initial period is required during which the bacteria can act on the sawdust and break it down into available plant food. It seems reasonable, therefore, to suggest that, if we could apply sawdust at least nine months ahead to an area of ground which we know we shall need for ericaceous plants, this breakdown process could proceed in a normal fashion, so that, by the time we came to plant the young material, the sawdust would have changed its composition, and moderate dressings of nitrogen would then suffice to supply the normal needs of the plants.

We therefore selected in the middle of the past summer a section of irrigated land which we proposed to use for our grafted rhododendrons and for azaleas this spring. The piece is approximately two acres in area. During the summer we carted sawdust from neighboring sawmills and covered this area to a depth of from four to five inches. We were able to obtain some piles of old sawdust, which in some instances appeared to be almost exactly like peat. It was anywhere from 12 to 20 years old. We segregated this material as it came from the piles and applied it to one area exclusively, the remainder being covered with sawdust fresh just as it came from the sawmills. Once the whole block was covered, we have continuously cut-harrowed this into the ground to mix as intimately as possible sawdust and soil.

Contrary to expectations, this sawdust has not made the soil acid, although we can expect it to do so in the spring when more rapid decomposition commences. We do find, however, that as a result of putting on this sawdust the resulting mixture is practically devoid of available nitrogen, and it is obvious that, in order to hasten the process of rotting, we shall have to top-dress the area with sulphate of ammonia, but we do not plan to do this until early in the spring, so that the full amount of the nitrogen can be used through the spring. We are, however, dressing the block with a light dressing of flowers of sulphur to bring the pH down from its present level of 6, so that, by planting time in May, we hope the pH will be at the required level of 4.

A second method whereby sawdust can be used with great success is as a mulch. Last spring we top-dressed a block of azaleas early in the season. They were the varieties Hinodegiri, Coral Bells, Snow, Ledi-

folia Alba and the Kaempferi varieties Atlanta, Carmen, Othello and Fedora. We worked by hand a 1½-inch to 2-inch layer of sawdust in between the young plants, and it will be seen where these azaleas have grown out into the sawdust, producing a solid mat of fibrous roots just beneath the surface. As a result of this, these plants grew steadily and without any slowing down due to the excessively dry summer and, with suitable applications of tankage, maintained a rich dark green glossy color in their foliage throughout the whole of the summer. In addition, we found that the mulch of sawdust blotted out ninety-five per cent of the weeds, and our weeding costs on this block were reduced by a similar amount.

Once we were able to see how successfully the plants were taking to this treatment, we extended the mulching to all our blocks of rhododendrons, both 1 year and 2 years old, with equally happy results. An indication of the value of the mulch was clearly shown to us when we planted a young block of rhododendrons in June. We were unable to plant until that time, due to pressure of the spring season, and the weather was hot, the ground dry and conditions were altogether unsuitable. The rhododendrons were lifted and planted into the prepared ground and immediately mulched with a 2-inch layer of sawdust. We were able to give them a certain amount of irrigation, but it was not adequate. However, as a result of the mulch we lost not more than two per cent of the total number planted, and as the weather began to cool off at the end of the summer, the plants

[Concluded on page 33.]



Mulch of sawdust around 2-year-old Azalea Hinodegiri, inducing mat of young roots.



# Nurseries in California Garden Show

A facsimile of the rugged western coast line, quiet lagoons, waterfalls and tall redwoods furnished the background theme for the California spring garden show, held April 21 to 28, at the Exposition building, Oakland. It was enthusiastically received by thousands of garden devotees who pushed the attendance record far above last year's. Visitors viewed the show, which was named "Pacifica" this year, from vantage spots at each end of the building, and wide aisles allowed for closer inspection of the individual displays, of which a great many were presented by nurseries.

## Award Winners.

Acclaimed as best in design, the award-winning exhibit of the Sunset Nursery, Oakland, which is shown on this page, was a garden fronting a modern living room. Graduated boxes of pink and white geraniums were set along the kitchen wall. A nook at the other end of the house showed a background of green, with large amaryllises, foliage plants and elephant's-ears adjoining more boxes of pelargoniums. The house and grassy plot were connected by a circular white pebbled area.

Second place was taken by the East Bay chapter of the American Institute of Architects and the Association of Landscape Architects. Third place was taken by the Lakeshore Garden Club, with McDonnell Nursery, Oakland, placing fourth.

## Garden Displays.

Highlighting the show were the outdoor gardens which illustrated the use of sunken gardens, outdoor living rooms, patios and swimming pools. The one by McDonnell Nursery, Oakland, pictured on the following page, contained a sunken pool of irregular modern design in the foreground. Some ten ideas, including an outdoor living room or a patio, were incorporated into the exhibit by the landscape architect, Jack L. Laflin, ideas which might be adapted by the spectators in their own home gardens. White and pink rhododendrons backed the outdoor living room, and yellow pansies were placed around the standards for the covered section of the patio. At the base of the rhododendron bank were colorful cinerarias, and further on around the section were white and yellow azaleas, then Alyssum Carpet of Snow and, for height along one side, western sycamore.

Just across the path was the exhibit of the Orchard Nurseries, Lafayette, designed by Ernest Werthein. The display was attractively centered about a canvas-topped patio, with unusual garden furniture bringing out the color of the brick wall. A grassy plot in the front set off the entire arrangement. Zonale geraniums surrounded the supporting posts of the structure and were planted around the pink dogwood tree. Yellow chrysanthemums, red azaleas, red tulips, petunias, roses, lilacs and azaleas were placed against the wall, while a plot of grass in front set off the entire arrangement.

Marguerites lined the edges of an exhibit designed by Dibble & Watson and constructed by Osmundson & Staley, Oakland. Featured were a swimming pool, a brick floor and a shelter complete with a barbecue pit and garden furniture. Rhododendrons and camellias were the main plants.

Designed for practical outdoor living and working as well as for beauty and recreation was the exhibit of the American Institute of Architects, East Bay chapter, and the Association of Landscape Architects, second-place winners of the award for design. A complete laundry room was built under a redwood-covered patio in one corner, while separated from this by a division was a barbecue pit and the children's sandbox. Potted geraniums were set in squared off sections. The

exhibit was fronted with a green lawn and surrounded by rhododendrons, azaleas, standard roses and blooming potted plants.

## Plant Displays.

In tune with the theme of the show, "Pacifica," the E. James Nursery, Oakland, presented a display of rhododendrons and azaleas placed on a rocky wall and next to a waterfall. Pond lilies floated in the lagoon, which was edged with azaleas.

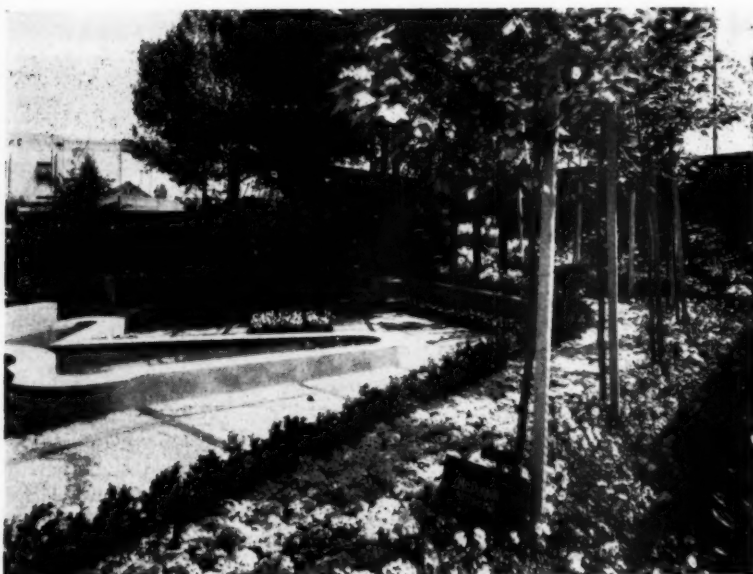
Tulips flown from Holland for the show and other blooming bulbs were combined in the bright and colorful exhibit of Peter Valinga, Burlingame. Occupying the center of the Exposition building, more than 1,500 square feet were devoted to hundreds of bulbs in bloom such as tulips, daffodils, ranunculi, amaryllises and grape hyacinths. Deserving special notice were a parrot tulip, Red Champion; a yellow parrot, a black parrot, double tulips, Eros and Uncle Tom, and a white and a light blue grape hyacinth. Outstanding were the daffodils, Fortune, Aerolite and white Mount Hood, and a pink tulip, Smiling Queen.

A garden setting incorporating parrot tulips, Moonshine daffodils and mollis azaleas against an evergreen background was prepared by the California Nursery Co., Niles.

A rustic theme was followed by the Berkeley Horticultural Nursery,



Highest Award for Design at Oakland Flower Show Won by Sunset Nursery's Exhibit.



McDonnell Nursery Highlighted Outdoor Garden with Modern Swimming Pool.

Berkeley, which built a path of wooden logs through a grassy plot leading to a quaint wooden fence and gate. Pink Pearl rhododendrons, pink azaleas.

[Continued on page 36.]

#### PASADENA FLOWER SHOW.

Outdoor garden exhibits by nurserymen bordered a patio at the twelfth annual southern California spring flower and garden show, held April 20 to 23, at the Fannie E. Morrison Horticultural Center, Brookside park, Pasadena.

Firms presenting displays were William H. Brown Nurseries, Inc., Alhambra; Tuttle Bros. Nurseries, Altadena; California Roses, Inc., Puente; Better Gardens, San Marino, and Bamico Gardens, Marsh's Nursery and Burkhardt & Cole, all of Pasadena.

One of the indoor displays was by Coolidge Rare Plant Gardens, Ltd., Pasadena. Howard & Smith, Inc., Montebello, covered a table with several dozen vases filled with their deep pink rose, Tom Brenerman.

A huge circus tent housed a shopping center, where various commercial firms sold plants, seeds and garden accessories.

#### TAMPA FIRMS IN SHOW.

One of the displays at the recent annual spring flower show at Tampa, Fla., sponsored by the Tampa Federated Garden Clubs, was staged by Jack O. Holmes, of Holmes Nurseries, Tampa, and Charles Culbreath,

now owner of Culbreath Landscape Co., Tampa, and formerly an employee at Holmes Nurseries.

The display, which followed the theme of a patio, featured custom-designed garden furniture amid potted dendrobiums, potted anthuriums, hibiscus blooms pinned to the tree fern trunks, palms and magnolia and holly trees.

#### NURSERYMEN'S GROUP IN KANSAS CITY SHOW.

One of the leading roles at the Greater Kansas City home show, which opened April 15 at Exhibition hall, Municipal Auditorium, Kansas City, Mo., was taken by the Greater Kansas City Nurserymen's Association with the creation of a large garden as background for the show.

The display, which covered an area fifty feet long, consisted of two gardens. One represented an old-fashioned garden and featured a sundial and an ornamental iron settee. Opposite this was a modern garden, of which a photograph is reproduced on this page. The garden was backed by a curved brick wall and featured statuary.

Included among the blooming trees and shrubs were forsythias, azaleas, hydrangeas, double-flowering peaches, dogwoods, magnolias, redbuds and tree wistarias. Most of the plants were labeled, and nurserymen were on hand to answer questions.

The gardens were designed by Hare & Hare, landscape architects, of Kansas City, Mo. Most of the credit for planning, executing and caring for the gardens went to Stanley R. McLane, horticulturist of the J. C. Nichols Co., Kansas City, Kan., who headed the planning committee.

The nurserymen who cooperated to make the exhibit possible were Midwest Floral & Nursery, Gardenland Nurseries, Raytown Nursery, Blue Ridge Nursery, Rosehill Gardens, Williams & Harvey Nurseries, Chandler Landscape & Floral Co. and Cloverset Flower Farm, all from Kansas City, Mo.; Ralph's Nursery & Garden Shop, Garden Shop, Inc., and Holsinger Nursery, Kansas City, Kan.; Willis Nursery Co., Ottawa, Kan.; Shawnee Nurseries & Landscape Co., Shawnee, Kan.; Twin Cedar Nursery and Heart of America Nursery & Landscape Co., both of Overland, Kan.; Cloverleaf Nursery, Merriam, Kan., and Soil & Service Co. The Kansas City park department supplied many plants and set up a mass display of foliage plants.

J. J.



Modern Garden Display Sponsored by Kansas City Nurserymen.

# Waste in the Nursery

By Chester E. Hogan

Every place we find waste, we can find dollars that are not there. They are dollars that are gone. They are dollars that we cannot recover.

You can recover a sale by applying a little more personality and a little more perseverance, but the dollar down the drain is gone.

I think, so far as waste is concerned, the nurserymen are No. 1 on the hit parade. They know more about waste, because they have more waste than most industries in the country. It seems sometimes that they have almost a complete disregard for the value of property and the value of dollars.

How many of you have seen tools thrown in piles, surplus lumber scattered behind the barn and trucks that were a disgrace?

Of course, some nurserymen do an excellent job in protecting their property, by being careful and not wasteful, but there are not too many of them.

If we assume that a nurseryman makes ten per cent profit, the waste of a \$5 taxus represents the profit on a \$50 sale. The waste of \$10 worth of labor would represent the profit on a \$100 sale.

How many shovels have we wasted? How much burlap have we thrown away? How much labor has gone down the drain?

There is no question that, if waste could be prevented, profits would rise without any more business.

There are many types of waste, but there are primarily four types that I should like to discuss.

The first type is the waste of supplies. In supplies, of course, you include burlap, paper, twine, rope, labels and things of that type. Not many nurserymen are aware what their supply bill is in a year, but supplies do cost a considerable amount of money.

A friend of mine who is a jeweler at Providence uses a small box in which he puts a cheap item for market, and the cost of the box represents a fairly important part of the total product. Recently, in reviewing his supply expenses, he found his purchases of boxes were 123 per cent of the items of jewelry. The boxes were of convenient size, and I

suppose they were being used for various reasons by some of the employees. That is a certain type of waste. He would buy 1,000 boxes, ship out about 800 items and have no boxes left.

The same thing is true in the nursery business with respect to burlap. How many times have you said, "I thought I had enough burlap, and yet I have to buy some more. And I have to buy in a smaller quantity, and really pay through the nose."

The second type of waste is the waste of equipment, and here, I



Chester E. Hogan.

think, the nurseryman really takes honors.

His tractors, trucks and small tools represent a large investment for him, and they represent an investment for which he apparently has little respect.

He discards his pruning shears, and they are lost. His tractor gets dirty and run-down. His truck is poorly maintained, and he is not a good example of advertising for the various trucking companies.

Too many nurserymen think that caring for a truck or a tractor is time wasted, but it is not time wasted. It extends the life of a tractor. It extends the life of a truck. It even brings sales by enabling the nurseryman to show a clean-looking piece of equipment.

Over at McMann, N. Y., there is a produce dealer who grows most of his own produce and has a good deal of rolling equipment, as well as tools. Every day, before the day is over, one man is responsible for putting each truck in its place, each tractor

in its place and each tool in its place. Each one of those items is cleaned, hosed down if necessary and oiled. He has a regular program that provides for the rotating of the tires on his trucks. How many nurserymen rotate the tires on their trucks to get longer life from the tires? How many nurserymen have a tool shed in which is a place for each item of equipment to be hung at the end of the day? How many keep an inventory on their small tools, so that they do not buy pruning shears every time they turn around?

The third type of waste is waste of stock. The nurseryman tells the customers how careful they must be of the material he plants for them, he impresses upon the customers' minds that the plant is a living thing and, therefore, must be cared for; yet his men step all over the stock and throw it around when it is in the nursery.

Probably one of the reasons for stock wastage is the lack of proper inventory control. Too many nurserymen do not know what they have. They know they have some, or they know they have a lot, or they know they have a little, but they are not quite sure what they have.

At conventions they buy by the bunches and they buy by the bushels, but they do not know how many they are going to sell.

Of course, that is gamble buying, and some gamble buying has to be done in order to take advantage of the market, but there is not enough study made of supply and demand in buying practices.

In some nurseries it is not uncommon to see evergreens and other plants that have no more value because someone has carelessly failed to water them down or otherwise care for them, or someone has dug them when they had no sales.

Now, the three types of waste I have discussed are the waste of things—the waste of stock, the waste of equipment and the waste of supplies—but the most important waste in the nursery industry is the waste of time.

In excusing the waste of time, it is quite common for nurserymen to say, "Well, my employees do not work too hard, and they dog it a little bit here and there." But waste of time is absolutely the fault of top management.

When time is wasted, it is no one's

Talk on "How to Avoid Waste in the Nursery," by Chester E. Hogan, treasurer of C. R. Burr & Co., Inc., Manchester, Conn., February 8, before the New England Nurserymen's Association.



fault but the supervisor, the man directing the operation, or the owner or the general manager. Time is a loss of dollars. Waste of time is not the fault of the individual performing the work, but of the individual directing that work.

Waste of time is caused by laziness, by ignorance, by lack of planning. Most nurserymen are not lazy; most nurserymen are not ignorant; most of them know a surprising amount about their business, and most of them are anxious to do as much to further their business as they possibly can.

But not too many nurserymen do a good job of proper planning, and that is the reason time is wasted. The source of waste is the man who sits behind the desk, or the man who directs the organization, who does not program his work a year ahead, six months ahead, a month ahead, a week ahead and a day ahead.

Each day the truck should leave the nursery at 8—if the beginning hour is 8—and should not leave at 8:15 or 8:20. It should not arrive on the job without all the tools or stock that is required. It is waste of time, waste of planning, waste of truck, and the fault is the fault of the supervision.

Many nurseries do not work on a budget. Now, budgets, of course, are figures, and figures are boring. Working on a budget will acquaint nurserymen with the problems that they have to face during the year, problems that can be answered by real action in planning.

Summing up, I think waste of time permeates every other type of waste. Waste of time can result in the waste of supplies. It can result in the waste of equipment. There is no one too busy to have the truck overhauled or the maintenance on it kept up.

So, waste of time, if it is controlled, will automatically control waste of equipment and waste of supplies and waste of stock.

It is all very well to discuss these types of waste, but the thing to do is to decide what should be done about them.

It is an easy thing to correct some of the waste, but it is a never-ending job. It goes on day after day after day. Each nurseryman, each company, should have a program which would require a continued drive on waste. The owner or the supervisor should set the example.

The employees who work for you have more respect for you if they drive a good-looking truck. They have more respect for you if they have a clean tractor. They have more

respect for you if the buildings are kept up, if your supplies are not thrown away and if you require that they do not destroy, discard and waste your equipment.

Management must earn that respect by setting up a program which is not too difficult to follow, but which it will require that the employees do follow.

#### CALVIN D. KINSMAN.

Calvin D. Kinsman, president of the Florida State Florists' and Nurserymen's Association, learned the business at Austin, Minn., where in 1890 his father and mother built a small greenhouse and grew plants and cut flowers. Born in 1882, Mr. Kinsman became associated in the



Calvin D. Kinsman.

business with his parents in 1910. In 1914, they incorporated as A. N. Kinsman, Inc.

In 1924, partly because of health, Mr. Kinsman and his wife moved to Miami, Fla., and, with the elder Mr. Kinsman, became plumosus growers. In 1930, Mr. Kinsman started a landscape business at Miami Beach. He sold that in 1941 and began growing plants for the wholesale trade under the name of Calmay Nursery. That establishment was sold in 1947 to Mr. and Mrs. Fred Elder. For a while Mr. Kinsman operated the Kinsman Landscape Service, which was sold in 1948. The Kinsmans now have a small place at Miami where they grow a few ornamental plants. Mr. Kinsman is also Florida sales representative for several nursery supply manufacturers.

Mr. Kinsman is a life member of

the Society of American Florists. He also is a member of the American Association of Nurserymen and the Southeastern Florists' Association and was president of the nursery group of the Florida State Florists' and Nurserymen's Association for the past two years.

Mr. Kinsman was a charter member of the Austin, Minn., Rotary Club organized in 1919. He transferred to the Miami Rotary Club in 1924 and was one of the group from Miami which organized the Rotary Club of Miami Beach, of which he still is an active member.

#### REMOVING SOIL.

Cleaning up after a planting job on a customer's premises is an important part of filling a landscape order. Carl Kern, of the Wyoming Nurseries, Cincinnati, O., finds help in this chore by using two open-end wooden boxes, or chutes, each twelve inches high, about three feet wide and six or seven feet long. When a hole is to be dug for planting a tree on a customer's premises, a box is placed on each side. Into one box goes the topsoil, and into the other box is shoveled the subsoil as the hole is made. When the digging is completed, the tree-mover hoist raises the boxes and dumps the soil from each into the truck in which it is carried away.

Thus, not only a cleaner job is done, but the time of shoveling away the soil and removing it to the truck by hand is saved.

#### NEW ARKANSAS ROSE.

A new red climbing rose especially adaptable to Arkansas weather and soil conditions has been bred by the plant pathologist at the agricultural experiment station at the University of Arkansas, Dr. H. R. Rosen. Named the Stephen Foster, the new rose has somewhat shorter-lived blooms than those of Paul's Scarlet climber, but, being more of the hybrid tea type, it is particularly useful as a cut flower.

The rose, which has been under experimentation for several years, has been grown throughout the state in both cold and hilly sections, showing a greater winter hardiness and vigor than any other available large-flowered red climber, according to Dr. Rosen.

THE new office address of the Caribbean Nurseries, Inc., is P. O. Box 955, Opa Locka, Fla.



# Insects and Diseases of Plums

By M. B. Cummings

This article deals with the more common and serious insects and diseases of plums and contains the most recent information in control work in order to furnish the nurseryman and the plum grower with a handy reference, since the literature on this subject is widely scattered. Five insects and five diseases are described, and combat measures are given for each. It seems wise, first of all, to tell of the increasing importance of plums in the fruit economy of our country.

## The Importance of Plums.

The plum is an important fruit in the United States, being of economic value both as a home garden product and as a large commercial crop throughout the country. Plums, including prunes, make up four and one-half per cent of all fruits produced in the United States; apples make up thirteen per cent, oranges ten per cent and pears five per cent. Plums also are exported as dried prunes, and production is increasing to meet market demands. In the east, New York, Michigan and Pennsylvania are the leading commercial plum-growing states, producing 100,000 bushels each. In the west, Idaho and California lead, the latter with 15,500,000 bushels. Eighty-five per cent of these plums are sold as dried prunes. The distribution from the northwestern states varies in value per year from \$7,000,000 to \$10,000,000. This sum might be much larger if there were not heavy losses from insects and diseases.

It is believed by pomologists and practical growers that the plum deserves more attention than it receives. The demand for this fruit is said to be increasing, and the per capita production has

risen from 8.3 pounds in 1919 to 14.8 pounds in 1938, showing a marked increase in yield per person.

## Some Diseases.

Crown gall on the roots heads this list of plum diseases, not because it is the most destructive disorder, but because it is shown in figure 1 of the accompanying illustration. The conspicuous brown or black structures near the top of the roots are the outward symptoms of gall trouble. These roughened, wartlike parts, caused by bacteria which infect the root tissue, grow on and in the roots, distorting them and interfering with normal root function. Galls are most frequently found at or near the surface of the soil, but they may

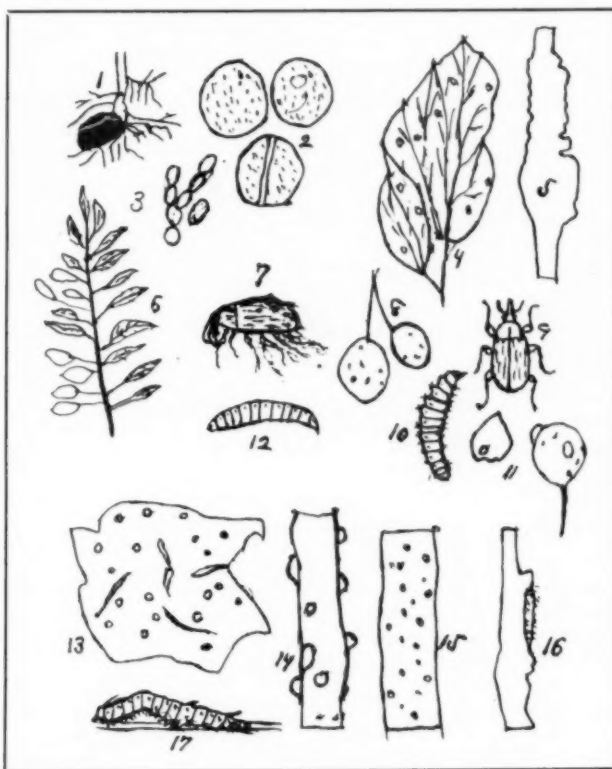
sometimes be found on the trunk or some distance up the tree from the surface soil. The bacteria that cause gall are widely spread in the soil and may be expected where fruit trees and berry bushes are grown, even though there are slightly different forms or strains, which have different manifestations on various species. The organisms gain entrance through wounds, and the trouble is chiefly a nursery disease, because infection takes place through graft unions.

Not all warty outgrowths are caused by gall infection; some are caused by defective graft unions. Galls are usually more destructive to small plants, for they restrict the movement of sap and the transfer of water and materials in the plant. The

first slight swelling increases rapidly, changing from light-colored, soft tissue to a dark brown, woody, irregular growth. When the gall is broken or cut off, it may decay, releasing immense numbers of bacteria, which may live in the soil one or more seasons and infect other plants. It is important to destroy all galls by burning them or by burying them deep in the ground.

The disease is not readily detected at the start on bush fruit, but is more conspicuous on nursery trees. After setting the plants or when transplanting them, it is important to avoid injury to the roots, for if this occurs, the disease-causing germ may enter. The use of disease-free stock is the best means of controlling gall. It is necessary for the nurseryman to be always on the watch for galls and to take measures to suppress them before they become established.

Brown rot, shown in figure 2, is a fungus disease that affects twigs, blossoms and fruit, but is most com-



Legend to diagram: 1, crown gall on root of plum, rough, corky brown or black; 2, brown rot on plum, showing powdery masses; 3, some spores enlarged from powdery mass; 4, shot hole disease on leaves; 5, black knot eruption on branch, rough black outgrowths; 6, plum pockets, a disease destroying pits, enlarging the spongy fruit, which is empty and puffy; 7, the plum curculio in adult beetle stage; 8, damage by plum curculio; 9, adult beetle of plum gouger; 10, worm of plum gouger with bristles; 11, scars by plum gouger; 12, worm of plum curculio, which works inside fruits; 13, round holes in bark made by shot hole borer between cracks of bark; 14, terrapin scale, hemispherical and turtle-shaped; 15, exit holes of bark beetle on 6-year-old branch; 16, brown rot canker on plum twig—rough, shallow, dark brown; 17, worm of catocala (a gray-brown caterpillar); note surface markings.

mon on ripening fruits, where it produces a gray-brown, moldy growth accompanied by the browning and decaying of the fruit under the skin. It also is common on peaches and less common on cherries. An enlargement of some of the spores which compose the rot is shown in figure 3. The blossoms are infected at the time they open, and they soon may turn brown and die, though they remain attached to the tree. The fungus passes through the blossom parts and attacks the twigs, causing them to blight, as shown in figure 16. The disease is most prevalent and does most harm in warm, humid areas and in seasons of much rain and little sun. The fungus may winter over on the dried fruits which are known as "mummies," seen on the ground or on the trees, and in the cankered twigs. In control work, one should cut away the affected parts, thin the infected fruits, pick up rotted plums and then spray at 10-day intervals with a sulphur fungicide. Infected bud sticks are a menace in the nursery.

Shot-hole disease, shown in figure 4, also known as shot-hole fungus, *Cylindrosporium padi*, occurs on plums as well as cherries. The symptoms are the presence of small, more or less circular holes and injured areas which become separated by a cleavage line and then a falling out of the injured areas, leaving small holes in the foliage. The effects are sometimes severe and spoil the appearance of the leaves. Bordeaux sprays have been used successfully in May and June, and wettable sulphur also is a combative spray.

Black knot, shown in figure 5, is recognized easily as a cankerous outgrowth on twigs and limbs. It is of nearly universal occurrence, especially in wastelands and on uncared for trees. The occurrence of this disease in the wild is the chief source of infection in the nursery and orchard, as it spreads by spores carried by the wind. Black knot sometimes is called a wart disease, for obvious reasons.

Black knot on limbs is unsightly, with its black, wartlike excrescences, which cover much of the affected area. The growth of the fungus, which is confined to the woody parts (two to four inches or more long), produces the enlarged, rough surface, causing the knot. It is advisable to cut and collect for destruction all knotty growths in the neighborhood which even resembles the disease, just for the sake of appearance, even though no disease is involved. But black knot is a disease and needs ex-

termination wherever found, in cultivated areas or in the wild. At the start there is a slight swelling of the branch, generally near a side branch. As the swelling increases in size, the bark is broken and dies, and soon the presence of the disease is clearly shown.

It is important to recognize black knot when it starts and to eliminate it early. Knots grow in size and become carbonaceous by midsummer. The fungus lives mostly on the cambium at first, but later girdles the limb and kills it, and the distal end also soon dies. In the course of time, from spring to midsummer in another year, little spore cases and infection spots form on the surface; these escape to start the disease anew on healthy limbs. Control requires co-operation of near-by property owners, orchardists and nurserymen in destroying the knots in a whole community. Cut them out, making the incision several inches below the extent of each knot, to get behind it, because infection extends below its outward manifestation. Trees that generally are sprayed with Bordeaux mixture or lime-sulphur are protected, if spraying is preceded by pruning out and destroying of all cankers.

Plum pockets, shown in figure 6, is a most peculiar disease of the plum, and the name is well taken. Empty pockets, which are easily detected, replace the fruit and its pit, with the resulting deformity caused by a fungus which destroys the fruit before it is fully formed. The fungus that causes the pockets is similar in its growth and effects to the one causing peach leaf curl and is controlled by a dormant spray of lime-sulphur before the leaf buds swell in spring. A spongy growth results from infection of the ovaries and will become the embryo. The whole plum becomes enlarged, and the fruit elongated, distorted and puffy. It is wise to collect and destroy all of the plum pockets in early stages of development.

#### Injurious Insects.

Plum curculio is an arch enemy of plums, peaches and apples, for it is widely distributed and seriously injurious. The adult beetle, shown in figure 7, and its worm are damaging to fruits. The beetle is a small, brown creature about three-sixteenths inch in length. It has four humps, or ridges, on its back, and an elephant-like snout for a mouth which scars the fruit, when eggs are laid in it. The grubs, or worms, that live and feed within the fruit are one-third

inch long and have no feet. The injury to the fruit, shown in figure 8, is a characteristic crescent-shaped scar on the outside and riddled flesh on the inside. The feeding puncture of the beetle may be a means of entrance of the brown rot fungus. Several practices assist in the control of this destructive insect: Working the soil in July disturbs and destroys many pupae in the earth; clearing out the trash around the trees removes the beetles' protection in winter, and sprays of arsenate of lead in May and late August kill many beetles. DDT also is effective.

A new insecticide, Chlordane, in preliminary trials seems to give good control of plum curculio, although it is not yet generally recommended. In cage tests, Parathion, also a new product, is more effective than arsenate of lead and may supplant it in the near future, although it is not yet recommended for general use either. Benzene hexachloride is being used in experiments and seems promising.

One thing that is much needed and is soon to come is a spray to kill curculio larvae in the dropped fruit, where sprays have been ineffective. The collection and destruction of damaged specimens are effective, but are laborious and time-consuming work. For a few garden trees, however, it is helpful and feasible.

The plum gouger is somewhat similar to plum curculio, but has no hump on the back, and the wing covers are a leaden-gray and finely spotted with black and brown, while the head is nearly yellow. The injury is roughly similar to that of curculio. The beetle, shown in figure 9, is one-fourth inch long and the snout one-eighth inch long. In feeding on plums, the beetles gouge out small, round holes on the fruits, as shown by figure 11. The eggs are laid in small drill holes in the plums; the worms, shown in figure 10, eat the embryo of the pit while growing to full size. Control measures are the same as for plum curculio.

The shot-hole borer works in the bark of trees, as illustrated by figure 13, where are shown the holes between cracks in the bark. Considerable damage is often done, and the injury arouses suspicion. The adult creature is a small beetle. In recent trials DDT appears to be effective in controlling shot-hole borers that work in the limbs and trunks of trees. Applications are made while the insect is in the beetle stage in midsummer and should be made before eggs are laid for another generation.

The plum tree catacola is a grayish-  
[Concluded on page 25.]

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	Per package
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Catawba, 2-l	11.00	90.00
Catawba, 1-l	9.00	70.00
Fredonia, 2-l	11.00	90.00
Fredonia, 1-l	9.00	70.00
Delaware, 2-l	14.00	120.00
Delaware, 1-l	11.00	90.00
Van Buren, 2-l	25.00	200.00
Van Buren, 1-l	15.00	125.00
Caco, 1-l	10.00	...
Sheridan, 2-l	16.00	...
Sheridan, 1-l	12.00	...
Golden Muscat, 2-l	25.00	...
Golden Muscat, 1-l	15.00	...
Seneca, 2-l	35.00	...
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250 at 1000 rate

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	Per 100	Per 1000
Eldorado, transplants	\$6.50	...
No. 1, root cuttings	...	(Sold Out)
1-yr., med., root cuttings	3.50	\$25.00
Alfred, transplants	6.50	...
No. 1, root cuttings	...	(Sold Out)
1-yr., med., root cuttings	3.50	25.00
Early Harvest, transplants	7.00	...
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### CURRENTS

	Per 100	Per 1000
Wildor, 3-yr., heavy	\$15.00	\$130.00
Wildor, 2-yr., No. 1	12.00	100.00
Wildor, 1-yr., No. 1	7.00	60.00
Red Lake, 2-yr., No. 1	16.00	...
Red Lake, 1-yr., No. 1	12.00	...

### GOOSEBERRIES

	Per 100	Per 1000
Downing, 2-yr., No. 1	...	(Sold Out)
Houghton, 2-yr., No. 1	\$25.00	...
Champion, 2-yr., No. 1	...	(Sold Out)

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Latham, 1-yr., No. 1	6.00	47.50
Chief, transplants	7.00	60.00
Chief, 1-yr., No. 1	5.50	45.00
Sunrise, transplants	7.00	60.00
Sunrise, 1-yr., No. 1	5.50	45.00
Indian Summer, transplants	8.00	70.00
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St. Regis, 1-yr., No. 1	5.50	45.00

### PURPLE RASPBERRIES

	Per 100	Per 1000
Sodus, No. 1, tips	\$5.50	...

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	Per 100	Per 1000
Cumberland, transplants, No. 1	\$8.00	\$70.00
transplants, No. 2	6.50	55.00
tips, No. 1	4.50	35.00
Logan, transplants, No. 1	8.00	70.00
transplants, No. 2	6.50	55.00
tips, No. 1	4.50	35.00
Morrison, transplants, No. 1	9.00	80.00
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Boysenberry (Common), No. 1, tips	\$5.00	\$40.00
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Lucretia Dewberry, No. 1, tips	5.00	40.00

### BLUEBERRIES

	Per 10	Per 100	Per 1000
Rancocas (Early) Jersey (Late)			
2-yr., Each	Per 10	Per 100	Per 1000
9 to 12 ins.	\$0.40	\$3.50	\$32.50
3-yr., 12 to 18 ins.	.55	5.00	47.50
4-yr., 18 to 24 ins.	.75	7.00	67.50
5-yr., 24 to 36 ins.	1.00	9.50	...

### ASPARAGUS

	Per 100	Per 1000
Paradise and Washington		
3-yr., heavy	\$4.00	\$30.00
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1-yr., No. 1	1.70	12.00

### VICTORIA RHUBARB

	Per 100	Per 1000
1 1/2-in. and up, whole roots	\$8.00	\$75.00
1 to 1 1/2-in., whole roots	5.50	50.00
3/4 to 1-in., whole roots	4.00	35.00
1/2 to 3/4-in., whole roots	3.00	25.00

### RED RHUBARB

	Per 100	Per 1000
Canada Red, No. 1, divisions	\$40.00	\$350.00
MacDonald, No. 1, divisions	30.00	250.00

### HORSE-RADISH

	Per 100	Per 1000
Cuttings, 4 to 5 ins.	\$2.00	...
Whole roots	...	(Sold Out)



# Plant Notes Here and There

By C. W. Wood

One sometimes hears high praises for the clump speedwell, *Veronica longifolia subsessilis*, many heralding it as the head of the family. But, on the other hand, little except complaints is sometimes heard about its short life and cultural demands. Somewhere between these two extremes its rightful place will be found, I think.

Its great beauty and its usefulness in the garden, as well as for cutting, give *V. longifolia subsessilis* high rank among the speedwells, provided it does well for you. But also to be reckoned with are its few positive needs, which have given it a reputation for fickleness in some quarters. One often hears that the plant winterkills badly, and again that it grows feeble in hot weather. There is some truth in both statements, especially if its habitats are not taken into account. This variety of *V. longifolia* comes from Japan, which indicates that it may not be able to stand the winters of our coldest sections. And it has been our experience in northern Michigan that it must have a place protected from cold winds and be given a mulch, preferably snow, if it is to go through one of our severe seasons.

When the books say that the type *longifolia* grows naturally in wet fields, they carry a hint as to what the plant and its varieties want in the way of a growing situation. So when we plant the clump speedwell in a rich soil, protect it if the climate is cold and irrigate it if the soil is dry, we are not surprised that we then enjoy one of the finest floral offerings of Japan. That offering consists of long thick spikes of glorious blue flowers during July and August, when the coolness of blue is appreciated in the garden. The flowers come on 2-foot stems, which are excellent for cutting. Propagation is from seeds, divisions or cuttings.

## Cedronella Cana.

Fortunate indeed is the gardener who can grow *Cedronella cana*, a subshrubby plant from New Mexico. Starting in early summer, or a little later in the northern part of its safety zone, it will keep up a constant display of deep red-purple, labiate flowers with blue stamens right up to, or close to, the frost line.

Records do not show how much

cold *C. cana* can stand, but, judging from its behavior here, it could no doubt be grown in all except the coldest parts of the country if given a protected situation and covered deeply with litter to protect the roots through the winter. That, at least, is how it, along with other half-hardy subshrubs, have reacted here. A long blooming period, hoary and fragrant foliage and general amiability recommend the type for trial.

## Periwinkles.

My sincere apologies to the New Jersey reader who asked last December for a note on periwinkles and some of their folklore. It took longer than I thought to assemble the folklore part, after I replied that it would appear in a near future issue.

Periwinkles, which have long been associates of gardeners, have apparently served different purposes in different ages and countries. In Italy, we are told, the periwinkle was formerly known as the flower of death, because the country people make garlands of the plant to place upon the biers of their deceased children.

In Germany it is the symbol of immortality, presumably from its evergreen nature, which also leads to the name of winter verdure. The French, who for some unaccountable reason called it the magician's violet, considered the plant an emblem of sincere friendship, while the English thought of it as the representative of tender recollections. But much more practical was old Culpeper, who in his *Herbal* tells us that the periwinkle is owned by Venus and that "the leaves, eaten together by man and wife, cause love between them."

Moderns, having largely outgrown the practice of saying it with flowers after the manner of the ancients, and feeling no need for love potions, have relegated the periwinkles to the role of ornaments. And, incidentally, the plants are well suited to fill those niches. The ubiquitous myrtle, *Vinca minor*, an inhabitant of some shady spot in almost every garden, needs no introduction. However, that it is, or has been, available in more than the ordinary form is not known to many gardeners. The literature

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Crab, Bechtel's, 2 to 3 ft.	75.00	Poplar, Lombardy, 5 to 6 ft.	25.00	Willow, Pussy, 18 to 24 ins.	15.00
Hackberry, 8 to 10 ft.	150.00	Poplar, Lombardy, 6 to 8 ft.	40.00	Willow, Pussy, 2 to 3 ft.	20.00
Hackberry, 1 1/2 to 2-in.	250.00	Poplar, Lombardy, 8 to 10 ft.	50.00	Willow, Pussy, 3 to 4 ft.	30.00
Maple, Soft, 10 to 12 ft.	125.00	Poplar, Lombardy, 1 1/4 to 1 1/2-in.	75.00	Willow, Thurlow, 8 to 10 ft.	100.00
Poplar, Bolleena, 1 1/4 to 1 1/2-in.	150.00	Poplar, Lombardy, 1 1/2 to 2-in.	90.00	Willow, Thurlow, 1 1/4 to 1 1/2-in.	125.00
				Willow, Thurlow, 1 1/2 to 2-in.	150.00

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Cherry, Hansen Bush, 18 to 24 ins.	20.00
Cherry, Hansen Bush, 2 to 3 ft.	30.00
Cherry, Hansen Bush, 3 to 4 ft.	35.00
Peach, assorted, 9/16-in.	35.00
Elberta, Golden Jubilee, J. H. Hale, Halehaven.	
Pear, Bartlett, 9/16-in.	65.00
Plum, assorted, 11/16-in.	75.00
Abundance, Burbank, Shropshire Damson, Stanley Prune.	

**SHRUBS**

	Per 100
150 Almond, Pink-flowering, 2 to 3 ft.	\$ 40.00
550 Almond, Pink-flowering, 3 to 4 ft.	50.00
Althaea, Bush, assorted colors, 12 to 18 ins.	7.50
Althaea, Bush, assorted colors, 18 to 24 ins.	12.50
Althaea, Bush, assorted colors, 2 to 3 ft.	15.00
Althaea, Bush, assorted colors, 3 to 4 ft.	20.00
Althaea Coelestis, single, blue, 12 to 18 ins.	10.00
Althaea Coelestis, single, blue, 18 to 24 ins.	12.50
Althaea Coelestis, single, blue, 2 to 3 ft.	15.00
Althaea Coelestis, single, blue, 3 to 4 ft.	20.00
440 Aralia Pentaphylla, 12 to 18 ins.	15.00
30 Aralia Pentaphylla, 18 to 24 ins.	20.00
40 Berberis Koreana, 18 to 24 ins.	15.00
140 Berberis Koreana, 24 to 30 ins.	20.00
850 Berberis Koreana, 30 to 36 ins.	22.50
560 Berberis Koreana, 36 to 42 ins.	25.00
150 Berberis Thunbergi, 9 to 12 ins.	7.50
3350 Berberis Thunbergi, 12 to 15 ins.	12.00
3800 Berberis Thunbergi, 15 to 18 ins.	16.00
1200 Buddleia Farquhari, No. 1.	15.00
950 Buddleia Magnifica, No. 1.	15.00
110 Buddleia Pink Charming, No. 1.	15.00
60 Caragana Arborescens, 2 to 3 ft.	20.00
20 Caragana Arborescens, 3 to 4 ft.	25.00
300 Cornus Alba Sibirica, 12 to 18 ins.	12.50
400 Cornus Alba Sibirica, 18 to 24 ins.	15.00
200 Cornus Alba Sibirica, 4 to 5 ft.	40.00
300 Cornus Amomum, 18 to 24 ins.	15.00
600 Cornus Amomum, 3 to 4 ft.	25.00
250 Cornus Florida Rubra, 2 to 3 ft.	175.00
280 Cornus Stolonifera Lutea, 18 to 24 ins.	20.00
80 Cornus Stolonifera Lutea, 3 to 4 ft.	40.00
450 Cornus Stolonifera Lutea, 4 to 5 ft.	50.00
500 Deutzia Lemoinei, 12 to 18 ins.	25.00
120 Deutzia Pride of Rochester, 12 to 18 ins.	15.00
320 Deutzia Pride of Rochester, 2 to 3 ft.	25.00
250 Deutzia Pride of Rochester, 3 to 4 ft.	30.00
Forsythia, assorted, 12 to 18 ins.	12.50
Forsythia, assorted, 2 to 3 ft.	25.00
Forsythia, assorted, 3 to 4 ft.	30.00
Fortunei, Intermedia, Primula, Spectabilis, Suspense.	
125 Honeysuckle, Bella Albida, 3 to 4 ft.	25.00
100 Honeysuckle, Fragrantissima, 12 to 18 ins.	15.00
800 Honeysuckle, Grandiflora Rosea, 3 to 4 ft.	25.00
50 Honeysuckle, Morrowi, 3 to 4 ft.	25.00
40 Honeysuckle, Tatarian, pink, 3 to 4 ft.	40.00
30 Honeysuckle, Tatarian, white, 2 to 3 ft.	25.00
30 Honeysuckle, Tatarian, white, 3 to 4 ft.	30.00
150 Honeysuckle, Zabeli, 2 to 3 ft.	25.00
500 Honeysuckle, Zabeli, 3 to 4 ft.	30.00
140 Hydrangea P. G., 12 to 18 ins.	20.00
90 Kolkwitzia Amabilis, 12 to 15 ins., br.	25.00
40 Kolkwitzia Amabilis, 2 to 3 ft.	40.00
100 Lilac, Persian, 12 to 18 ins.	17.50
370 Lilac, Persian, 18 to 24 ins.	25.00
60 Lilac, Persian, 2 to 3 ft.	30.00
40 Lilac, Persian, 3 to 4 ft.	35.00

**SHRUBS—Continued**

	Per 100
40 Lilac, Persian, white, 12 to 18 ins.	\$20.00
70 Lilac, Vulgaris Alba, 12 to 18 ins.	20.00
130 Lilac, Vulgaris, purple, 12 to 18 ins.	20.00
Lilac, French, 12 to 18 ins.	25.00
Alphonse Lavallee, Chas. X, Chas. Joly, Michel Buchner, Pres. Fallieres.	
70 Philadelphus Avalanche, 12 to 18 ins.	15.00
20 Philadelphus Avalanche, 2 to 3 ft.	25.00
70 Philadelphus Coronarius, 12 to 18 ins.	15.00
250 Philadelphus Coronarius, 18 to 24 ins.	20.00
340 Philadelphus Coronarius, 2 to 3 ft.	25.00
160 Philadelphus Grandiflorus, 12 to 18 ins.	15.00
190 Philadelphus Grandiflorus, 18 to 24 ins.	20.00
120 Philadelphus Grandiflorus, 2 to 3 ft.	25.00
400 Philadelphus Pyramidalis, 2 to 3 ft.	20.00
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50 Privet, Regel, 30 to 36 ins.	40.00
40 Rhus Aromatica, 12 to 18 ins.	15.00
50 Rhus Aromatica, 18 to 24 ins.	20.00
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260 Spiraea Bethlehemensis, 18 to 24 ins.	12.50
390 Spiraea Bethlehemensis, 2 to 3 ft.	20.00
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80 Spiraea Billardi, 18 to 24 ins.	12.50
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120 Spiraea Opulifolia Nana, 12 to 18 ins.	15.00
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200 Tamarix Amurensis, 18 to 24 ins.	12.00
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200 Viburnum Lentago, 3 to 4 ft.	30.00
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350 Viburnum Molle, 18 to 24 ins.	15.00
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290 Weigela Abel Carriere, 2 to 3 ft.	25.00
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110 Weigela Eva Rathke, 2 to 3 ft.	30.00
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mentions more than a dozen varieties which include, in addition to the ordinary singles, double forms in white, blue, rose and purple and variegated foliage. Not all are now available in nurseries, though most may be found in old gardens, keeping alive the memories of folk who lived and loved them years ago.

If a person happens to read Miss Jekyll's late October notes in her "Wood and Garden" when outdoor flowers are on the wane or quite non-existent and finds her saying that "the pretty Mediterranean periwinkle, *Vinca acutiflora*, is in full bloom now," he will not rest until that plant has been added to his collection. And then, if he lives in the north, he will be sorely disappointed when he finds that it is merely a form of *V. major* or closely related to it and, like the type, unable to stand a northern winter outdoors. In a more favored section it will mean the gain of a most valuable friend, whether the plant be *acutiflora*, *acutiloba* or any of the forms of *V. major*, for they all bloom from spring until autumn on no more than ordinary periwinkle care.

On the other hand, the Madagascar periwinkle, *V. rosea*, which the "Standard Cyclopaedia of Horticulture" says is probably not native to the Old World at all, is definitely not hardy except in the warmest parts of our country. It is, however, a useful bedding plant, producing rosy or white flowers, according to variety, on erect little bushes until cut down by frost. Plants bought from florists in spring that were started from seeds in January or February should commence to bloom at once. If a grower without greenhouse facilities wants to grow his own plants, seeds may be started in late March or early April, using a light soil in a temperature around 70 degrees. These will not bloom so early as the others, of course, but should give a brilliant display from mid-summer onward. They will need a good supply of moisture during dry weather.

### Oriental Poppies.

I had an interesting letter recently from an eastern reader who outlined his difficulties with the trouble-making Oriental poppies which were called for in conspicuous places in the plans of a planting. He is not the only one who has run into these perplexing problems, for most of us have long wrestled with these flowers. Personally I have come to the following conclusions:

I have a notion, first of all, that many more of these plants would be

used if gardeners were shown how to combine them with other plants for pleasing effects. Some of the more experienced of the brethren may think that is an elementary problem, but not many gardeners have been able to solve it, if my observations are correct. No matter how much we may admire the individual flower of *Papaver orientale*, it remains a fact that the type and many of its offspring are problem children when it comes to getting along with other inhabitants of the garden.

In the first place, one's customers should be shown that they cannot expect satisfaction from these poppies planted singly in isolated spots, as is often done. That merely means a spotted appearance which no amount of doctoring will correct. Rather, one should plant these poppies in bold masses, being sure that their immediate neighbors tone down, instead of accentuate, the harshness of their colors. Useful in this role are flowers in soft shades of lavender, such as the old *Iris Celeste*, which many growers will remember for comparison with modern kinds. Light blue and white *Campanula persicifolia*, white flowers of the same season, pale shades of the ever-useful catmint, *Valeriana officinalis*, and plants with gray or bluish foliage, such as the *nepetas* of that persuasion, are also useful here.

And then there is the problem of vacant places after the poppies go to rest in early summer. Some gardeners try to solve this by putting pot-grown annuals in when the poppy foliage is ready to be disposed of, but that is obviously not often a satisfying answer. A better plan, according to many experienced gardeners, is to depend upon loose-growing perennials which make most of their top growth just before or immediately after the passing of the poppies. The tall *gypsophilas*, especially *paniculata*, *pacifica* and *oldhamiana*, are ideally suited to that purpose, not only covering the demise of the poppies, but giving another period of flower production to that area. The fall asters will also be found useful for the same purpose.

#### **Nepeta Mussini.**

The mention of catmint in the preceding note reminds me that *Nepeta mussini*, although well and favorably known in gardens, is not appreciated at its true worth as an expressive part of landscape pictures. From the first coming of its lovely foliage in spring and continuing through its successive flowerings un-

[Continued on page 48.]

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# Quarantine Changes

## HOYT NAMED CHIEF OF PLANT QUARANTINE.

Avery S. Hoyt's appointment as chief of the bureau of entomology and plant quarantine of the United States Department of Agriculture became effective April 26, according to Dr. P. V. Cardon, administrator of the Agricultural Research Administration. Acting chief since the death of Dr. P. N. Annand, March 29, Mr. Hoyt had been an associate chief of the bureau since 1941.

He is a native of San Diego, Calif., and, after graduating with a B.S. degree from Pomona College in 1910, was employed by the state in horticultural quarantine work. After resigning from this service and being in business for himself from 1921 to 1928, he rejoined the state department to become the director of agriculture.

In 1931 Mr. Hoyt became assistant chief of the plant quarantine and control administration of the agricultural department, an agency later merged with the bureau of entomology and plant quarantine, of which he became assistant chief in 1934. After being named associate chief, he was granted a meritorious promotion in 1942 because of outstanding work in this position.

It is reported that the new chief's principal hobby is gardening. He is a member of the American Association of Economic Entomologists and Washington, D. C., Entomological Society.

Mr. Hoyt and his wife have one daughter.

## QUARANTINE RELAXED ON RUST-RESISTANT PLANTS.

Restrictions and regulations have been relaxed to facilitate shipment of rust-resistant species and horticultural varieties of berberis, mahonia and mahoberberis, according to instructions supplementing the black stem rust quarantine 38 issued last month by Avery S. Hoyt, while he was acting chief of the bureau of entomology and plant quarantine.

Effective April 22, the instructions allow for the interstate movement of the designated plants in compliance with regulations of the rust quarantine. The seeds and fruits of these plants, if produced in Colorado, Illinois, Indiana, Iowa, Kansas, Michigan, Minnesota, Missouri, Montana,

Nebraska, North Dakota, Ohio, Pennsylvania, South Dakota, Virginia, Washington, West Virginia, Wisconsin and Wyoming, may be shipped between such states only under permit. However, there are no restrictions on the seeds and fruits, wherever produced, when moved from the states named to outside points or when shipped between states other than those named.

The bureau has determined that no unwarranted pest risk is involved in the permitted movement of such species and varieties. It warns that the period when nurseries are inspected to determine whether they are free of rust-susceptible varieties is now at hand.

The species and varieties which have been tested recently and found immune to wheat stem rust are listed below by the scientific name, followed by the common name. Those varieties preceded by asterisks (\*) are the thirteen newly tested and approved ones added to the list that may be shipped interstate in compliance with federal regulations.

\*Berberis arido-calida.

B. beaniana, Bean's barberry.

- B. buxifolia, Magellan barberry.
- B. buxifolia nana, dwarf Magellan barberry.
- \*B. calliantha.
- B. candidula, paleleaf barberry.
- B. chenaulti, Chenault barberry.
- B. circumserrata, cutleaf barberry.
- B. concinna, dainty barberry.
- B. darwini, Darwin barberry.
- B. formosana.
- \*B. franchetiana.
- B. gagnepaini, black barberry.
- B. gilgiana, wildfire barberry.
- B. horvathi.
- \*B. hybrido-gagnepaini, false black barberry.
- B. julianae, wintergreen barberry.
- B. koreana, Korean barberry.
- B. linearifolia Orange King, Jasperbells barberry.
- B. mentorensis, Mentor barberry.
- \*B. pallens, pallid barberry.
- B. potanini, longspine barberry.
- \*B. replicata, curlleaf barberry.
- B. sanguinea, red-pedicle barberry.
- B. sargentiana, Sargent barberry.
- \*B. stenophylla, Rosemary barberry.
- B. stenophylla diversifolia.
- B. stenophylla irwini, Irwin barberry.
- B. stenophylla nana compacta, corallina barberry.
- \*B. telomaica artisepala.
- B. thunbergi DC., Japanese barberry.
- B. thunbergi atropurpurea, red-leaved Japanese barberry.

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Scotch Pine, 2-0, 2 to 4 ins. ....	2.00	15.00
Scotch Pine, very good, 2-yr., 4 to 6 ins. ....	3.00	25.00
Larch, 2-yr., 5 to 8 ins. ....	2.50	20.00
Pitch Pine (Adirondack), 2-yr., 5 to 8 ins. ....	2.00	15.00
Mugho Pine, 2-yr., Dwarf, Austrian ....	2.50	20.00
Mugho Pine, 3-yr., Dwarf, Austrian ....	3.50	30.00

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	Per 100	Per 1000
2 to 4 ins., sdgls. ....	\$ 0.80	\$ 5.00
3 to 6 ins., sdgls. ....	1.50	10.00
* 6 to 9 ins., sdgls. ....	2.50	15.00
* 9 to 12 ins., sdgls. ....	6.00	40.00
* 12 to 18 ins., sdgls. ....	8.00	65.00
* 18 to 24 ins., sdgls. ....	20.00	....

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- B. thunbergi Globe.
- B. thunbergi Golden.
- B. thunbergi maximowiczii, coral Japanese barberry.
- B. thunbergi minor, box barberry.
- B. thunbergi pluriflora, flame barberry.
- B. thunbergi, thornless.
- B. thunbergi variegata.
- B. triacanthophora, threespine barberry.
- B. verruculosa, warty barberry.
- B. virginianum.
- Mahonia aquifolium, Oregon grape mahonia.
- M. bealei, leatherleaf mahonia.
- \*M. compacta.
- M. dictyota, netvein mahonia.
- \*M. fortunei, Chinese mahonia.
- M. nervosa, cascades mahonia.
- M. pinnata, cluster mahonia.
- M. repens, creeping mahonia.

### QUARANTINE REVISIONS.

An indexing system for detecting the presence of tobacco necrosis virus in primula plants has been adopted as a new technique in plant quarantine inspection resulting from recent instructions amending the import requirements of this plant. Regulations governing the importing of lantana and pelargonium plants have also been changed.

Importation of primulas has been prohibited from Australia and the British isles because of the presence



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of the tobacco necrosis virus there. The plants may be admitted from other foreign countries, except Canada, if found virus-free after being grown under supervision for a period of postentry quarantine.

Since the virus is present only in the roots and the infected primulas do not show outward symptoms of the disease, it is necessary to use an indexing technique, in which the virus-susceptible seedling plants are inoculated with material from the roots of imported plants. If the virus is present in the imported root tissues, it will infect the seedlings and detectable symptoms will quickly appear.

Pelargonium plants are also prohibited if grown in Australia and the British isles because they are victims of the same virus. The plants from other foreign countries will be subject to a postentry quarantine similar to that required for primulas. An exemption is made in the importation of stem cuttings of pelargoniums, since the virus is confined to the roots.

Recent instructions also lifted the prohibition on the importation of lantana plants from India and revoked the postentry requirements for this species from other foreign countries, since it has recently been found that the sandal spike disease virus does not infect lantanas as formerly believed. Lantanas may now be imported under the general requirements of the regulations.

### 1949 JAP BEETLE REPORT AND PROGRAM FOR 1950.

Trap scouting and inspections for Japanese beetles outside regulated territory in 1949 showed little change in the general situation, except for a general occurrence of beetles north of Wilmington, in southeastern North Carolina, and a number of sizable first-record infestations discovered in West Virginia. Detailed report of the inspections last year and a proposed quarantine program for 1950 were recently issued by Avery S. Hoyt, now chief of the bureau of entomology and plant quarantine.

Among the proposals for 1950 is one that federal regulations be extended to include five New York towns; namely, Penfield, Perinton, Webster, McLean, Caldwell and Bolton; Newport township, in Washington county, Ohio; ten localities in Virginia, to cover the cities of Altavista, Bassett, Clifton Forge, Covington and Glade Spring, and all non-regulated portions of Marshall, Tyler and Wetzel counties in West Vir-



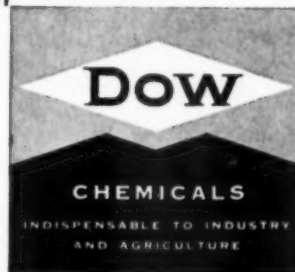
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ginia, as well as several magisterial districts in Randolph and Wood counties.

It is not proposed to extend the federal quarantine any further, but to carry on the coordinated, cooperative program used in previous years, which is expected to combat the Japanese beetle and provide protection from natural spread and approximate safeguards on the movement of commodities which may carry the pest. This program depends upon action by the states, most of which have proposed or already taken measures to combat and safeguard infestations detected during the year. The program also includes the prompt use of soil treatments and foliage sprays, mostly using DDT, next season as may be required.

Approximately 33,300 traps were operated during 1949 in thirty-six states outside the federally regulated areas, which is the extent of the investigation. No inspections were made in six states west of the Mississippi river. Trapping was done in 218 towns and 104 airports in thirty-one states; scouting was carried on at 2,233 plant-growing establishments and 149 additional sites, such as airports, freight terminals, cemeteries and roadside areas in 1,047 localities in eighteen states, and addi-

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*Clethra Alnifolia*, 18 to 24 ins.  
*Deutzia Gracilis Rosea*, 15 to 18 ins.  
*Euonymus Alatus Compactus*, 15 to 18 ins.  
*Euonymus Patens*, 18 to 24 ins.  
*Euonymus Radicans Vegetus*, 10 to 12 ins., 3 br. and up  
*Euonymus Radicans Vegetus*, 12 to 15 ins., 3 br. and up  
*Ilex Convexa Bullata*, 8 to 10 ins.  
*Ilex Convexa Rotundifolia*, 8 to 10 ins.  
*Mahonia Aquifolium*, 15 to 18 ins.  
*Philadelphus Aurea*, 15 to 18 ins.  
*Viburnum Opulus Nanum*, 6 to 8 ins., br.  
 Maple, Norway, 6 to 8 ft.  
 Maple, Norway, 8 to 10 ft.  
 Maple, Norway, 10 to 12 ft.  
 Maple, Silver Leaf, 6 to 8 ft.  
 Maple, Silver Leaf, 8 to 10 ft.  
 Maple, Silver Leaf, 10 to 12 ft.  
*Prunus Cistena*, bush form, 2 to 3 ft.

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tional scouting was done in 419 counties in thirteen states.

Adult beetles were collected in 101 localities in fourteen states; Georgia, Kentucky, Tennessee, North Carolina, Illinois, Indiana, Michigan, Virginia, West Virginia, Maine, Ohio, Kansas, Missouri and New York. First-record finds of a single beetle each were reported from seven localities in six states, Olathe air base, in Kansas; Bridgeton, Mo.; Brice and Nashport, O.; Blacksburg, Va.; Dayton, Ky., and Harrisville, W. Va. In twenty-five localities in eight states, first-record collections were made of from two beetles to a number over 500, a quantity usually referred to simply as numerous. These states were Illinois, Kentucky, Missouri, New York, North Carolina, Ohio, Virginia and West Virginia.

Of the 101 localities where beetles were collected, thirty towns are within the area proposed to be added to the federally regulated area. Either finds were insignificant or DDT control measures were applied to the remaining localities, which will be reinspected in 1950 and the control measures repeated if necessary.

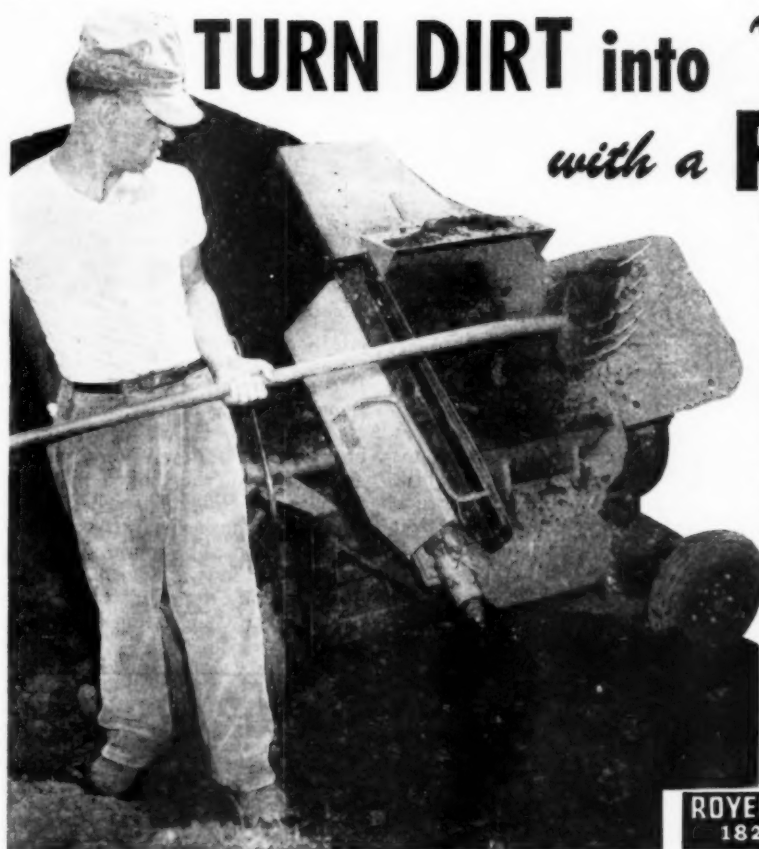
Two airfields out of 104 inspected had beetles, twenty-eight being found at the Atlanta, Ga., airport where DDT foliage treatment was applied, and one beetle at the Olathe air base in Kansas.

Outside the areas to be included in the federally regulated area, from one to twelve beetles were collected at eleven plant-growing establishments, six of which are in Ohio, two in Kentucky, two in Virginia and one in New York. All are operating under signed state quarantine agreements under federal supervision.

DDT foliage treatments were applied in fifty-eight localities in six states, with repeat applications made at many of these localities. DDT soil treatments were applied to approximately 530 acres in twenty-two localities in eight states, as compared with 1948 treatments applied to 1,050 acres in twenty-six localities in seven states. The only lead arsenate used in 1949 was applied as a soil treatment to twenty acres at Detroit, Mich.

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NEW address of North Ridge Nursery, operated by George F. Gens, is 2480 North Ridge road, Elyria 7, O.



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## PLUM DISEASES.

[Concluded from page 14.]

brown caterpillar, as shown in figure 17. It is one and one-half inches long and has a horn on the ninth segment. It has an irregular grayish patch on each side of the body near the horn. Plum foliage is the preferred food for catocala. The underside of the caterpillar is pinkish with a row of black spots on the middle front line. Control is by sprays of arsenate of lead.

The terrapin scale, shown in figure 14, is similar to the peach lecanium. It is turtle-shaped, reddish or brownish in color (some are almost black) and is about one-eighth of an inch long. The scales attach themselves to twigs and small limbs. Frequently plum trees become incrustated with them, and some branches may become sooty with the abundance of them. The young hatch beneath the mother scale. Miscible oil sprays put on as dormant sprays will destroy the insects.

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Also all collected seedlings—including Hemlocks.

Each	Rhododendron Maximum	Rhododendron Catawbiense	Kalmia Latifolia	Azaleas Calendulacea and Nudiflorae
18 to 24 ins.....	\$1.24	\$2.50	\$1.40	\$1.75
2 to 2½ ft.....	2.25	3.25	1.75	2.50
3 to 4 ft.....	3.25	4.00	3.00	3.50
4 to 5 ft.....	4.50	5.00	5.00	4.50

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6 to 10 ins., grafts.....	\$55.00
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Magnolia S. Nigra (red)	
8 to 15 ins. (own-root).....	75.00

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Pachysandra, rooted cuttings....	Per 1000
Vinca Minor, in pots.....	\$50.00
	95.00

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## AMERICAN ASSOCIATION OF NURSERYMEN

**RICHARD P. WHITE,**  
EXECUTIVE SECRETARY



636 SOUTHERN BLDG.,  
WASHINGTON 5, D. C.

### CONVENTION SESSIONS TO OPEN WITH MOVIES.

Something new to A. A. N. conventions will be the showing of movies at the start of each general session when the American Association of Nurserymen holds its seventy-fifth convention at Washington, D. C., July 16 to 21. These sound films have all been carefully selected for their interest and value to nurserymen.

The first movie, which will be run the morning of July 17, immediately preceding the meeting of the board of governors, will be "America and Sons Unlimited" and has been shown throughout the world by the United States Department of State. Prepared by the United States Chamber of Commerce, it shows how our free enterprise system of government has enabled America to become a leader of the world's nations.

Prior to the growers' meeting on Tuesday, July 18, there will be a showing of "First in the Hearts of Farmers," produced by the American Plant Food Council, Inc. The film story is based upon the daily record of George Washington's early farming experience at Mount Vernon and depicts good soil management practices and the use of plant foods.

The Standard Oil Co.'s "Historic Virginia" will also be shown July 18, before the meeting of the National Landscape Nurserymen's Association. The film features the historic spots of the Dominion state, including Mount Vernon and its landscaping, a point of interest which the A. A. N. conventioners will visit Wednesday afternoon, July 19.

A film that has been acclaimed for its forceful telling of the American story of cooperative management and employee-capital relationships, "In Balance," and originally prepared by Burroughs Adding Machine Co. for its employees only, will be shown Wednesday morning, July 19, preceding a session of the A. A. N. board of governors. Because of the demand in industrial circles, the company has had to make additional copies of this film.

Thursday morning, July 20, before the final session of the board of governors, another film prepared by

Marshall Field & Co., Chicago, will be shown. Though 3 years old, this movie "By Jupiter," is still popular as an employee-training film.

### ALLIED TRADE MEETINGS AT A. A. N. CONVENTION.

The schedule has been completed for meetings of allied trade groups before and during the twenty-fifth convention of the American Association of Nurserymen, to be held at Washington, D. C., July 16 to 21. All the meetings will be held at the convention headquarters, the Hotel Statler.

Friday, July 14, the District room of the hotel will be given over to stock committee meetings of the Ornamental Growers' Association at 9 a. m. and of the Fruit Tree Growers' Association at 2 p. m. Full meetings of these two groups will be held July 15 in the Pan American room.

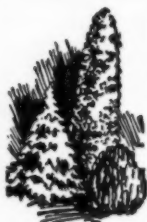
### PLEASE SEND YOUR CATALOG

We are landscape contractors  
and annually use thousands  
of trees and plants.

Let's get acquainted.

**FAULK-WHITE CO., Inc.**

ALBERTSON, L. I., N. Y.



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A General Line of  
FRUIT and ORNAMENTAL  
TREES and PLANTS

**BUNTINGS' NURSERIES, Inc.**  
Box 3 SELBYVILLE, DEL.

## AMERICAN NURSERYMAN

All-America Rose Selections, Inc., will meet July 16 at 9:30 a. m. and 2 p. m. in the Pan American room. The American Nurserymen's Protective Association and the Baby Ramblers will have breakfast meetings July 17, at 8 a. m. in the Capitol room and the South American room, respectively. Also scheduled for that day is a meeting of the National Association of Plant Patent Owners at 9:30 a. m. in the Pan American room.

The Association of Nursery Association Secretaries will hold a breakfast meeting in the Pan American room from 8 a. m. to noon on July 18. A breakfast that day will also be held for the Retail Nurserymen's Association of the United States in the Capitol room. The National Landscape Nurserymen's Association will meet in the South American room July 18, at 9:30 a. m., and an open meeting for growers will be held in the Congressional room at 9:30 a. m.

### WE OFFER —

	Per 100
Pink Dogwood, 1 1/2 ft. ....	\$75.00
Weigela Floribunda, red, 12 to 18 ins. ....	20.00
Weigela Japonica, red true, upright liners ....	11.00
Azalea liners, extra-large Hino, Salmon Beauty and Snow, wrapped 10 to a bundle for resale ....	15.00
Mimosa, 2 ft. ....	10.00
Red Maple Shade Trees, 3 ft. ....	10.00

Please send cash, money order or  
check, or 1/3 cash, balance C.O.D.

**WM. E. WENTZELL NURSERY**  
SEWELL, N. J.

QUALITY MERCHANDISE  
AT REASONABLE PRICES

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MANCHESTER, CONN.

Wholesale Nurserymen Since 1922

**POTTED LINERS**  
**GRAFTS**

(Beetle Certified)

**HEASLEY'S NURSERIES**  
Freeport Rd. BUTLER, PA.



# OHIO LUNCHEON FURTHERS "PLANT AMERICA" PROGRAM.

The "Plant America" campaign of the American Association of Nurserymen was given further impetus April 14 at Columbus, O., when the Ohio Nurserymen's Association and the Columbus Landscape Association jointly sponsored a "Plant America" luncheon program immediately following Arbor day ceremonies. A thornless honey locust tree was planted on the lawn of the Statehouse, and Governor Lausche spoke on Arbor day planting.

A. A. N. President James I E Ilgenfritz came from Monroe, Mich., to speak on the origin and benefits of the "Plant America" program. Literature explaining the aims of the program was placed beside each guest's plate by the information service of the A. A. N.

A forceful talk on the "Plant America" idea was given by Dr. L. C. Chadwick, department of horticulture, Ohio State University, Columbus. He suggested what might be done through supplementary campaigns to plant Ohio and plant Columbus. His talk was so well received that he was asked to repeat it for other organizations.

Present at the luncheon were 107 representatives of industry, farm organizations, civic groups, state and local garden clubs, park boards, chambers of commerce, various state departments, county agencies and the press. Walter Burwell, Burwell Nurseries Co., Columbus, was chairman of the "Plant Ohio" committee of the Ohio Nurserymen's Association.

NAMED in honor of the American Airlines flagship fleet by C. R. Burr & Co., Inc., Manchester, Conn., a bouquet of American Flagship roses, held by an attractive stewardess, was the front-page illustration of a recent edition of the Flagship News, the airlines' house organ. The photograph was made at Lexington Nurseries, Inc., Lexington, Mass.

PLANS have been announced by J. O. Lambert, Jr., and H. M. Lambert, of Lambert Landscape Co. and J. O. Lambert Associates, Dallas, Tex., to purchase and move their offices to the acreage now occupied by the Rendezvous stables on Northwest highway near Marsh lane. The barn will be renovated into offices and the grounds landscaped and planted in an attempt to repeat the beautification movement they started in the Cedar Springs area, where the Lambert offices are now.

## ILGENFRITZ NURSERIES, INC.

THE MONROE NURSERY · MONROE, MICH.

### PYRAMIDAL ARBORVITAE

Pyramids are scarce this season! We have them, but they are going fast. We also have some beautiful *Taxus Cuspidata* and upright Hicksi and Hatfieldi. Many other fine evergreens can be dug promptly.

### SHRUBS

can be supplied in many of the best varieties, but quantities are small in some sizes. Hibiscus in various colors; Snowberry, Coral Berry, Deutzia Pride of Rochester, Tamarix Africana and many others!

### FRUIT TREES

have moved much better than was anticipated earlier in the season. Our trees are in fine condition, and orders will be filled immediately.

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and your stock will be on its way to you without delay. Buy ILGENFRITZ where you are sure of

A-1 QUALITY

## ILGENFRITZ NURSERIES, Inc.

MONROE, MICHIGAN

### LINING-OUT STOCK

Spring, 1950

Hardy Azalea Hinodegiri, Hinomayo, Nome, Snow, Azalea Kaempferi Hybrids; Carmen, Cleopatra, Fedora, Atlanta, Mme. Butterfly, etc.

1-yr., 2 to 5 ins., 18c ea.  
4 to 6 ins., 25c ea.

2-yr., 4 to 6 ins., 25c ea.  
6 to 8 ins., 50c ea.

Cornus florida rubra, 1-yr. grafts, 18 to 24 ins., 75c ea. Acer atropurpureum, 1-yr. grafts, 9 to 12 ins., 75c ea. Lilacs, 1-yr. grafts, many varieties, 20c ea. Ask for complete list of other varieties.

DEERFIELD NURSERIES  
DEERFIELD STREET P.O., N. J.

### Evergreens Barberry Privet

Write for wholesale price list.

### GARDNER'S NURSERIES

Rocky Hill, Conn.

### ROSA MULTIFLORA JAPONICA

Thorny Type; ideal for fences.

Orders taken for Fall, 1950, and Spring, 1951.

BROOKVILLE NURSERIES  
GLEN HEAD, N. Y.

### THUJA OCCIDENTALIS COMPACTA ERECTA (NEW)

We offer this new variety in rooted cuttings; also established stock from 2 1/4-in. pots.

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### ORNAMENTAL EVERGREENS

### Trees & Shrubs

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### PRIVET and BERBERIS Splendid Stock

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LESTER C. LOVETT  
MILFORD DELAWARE

## NORTHERN-GROWN LINING-OUT STOCK

<i>Betula papyrifera</i>	Per 100	Per 1000
1 to 2 ft.....	\$ 6.00	\$50.00
2 to 3 ft.....	8.00	70.00
3 to 4 ft.....	25.00	.....
4 to 6 ft.....	40.00	.....
<i>Clethra alnifolia</i>		
6 to 18 ins.....	6.00	50.00
18 to 24 ins.....	8.00	70.00
<i>Hex verticillata</i>		
1 to 2 ft.....	6.00	50.00
<i>Syringa vulgaris</i>		
1 to 2 ft.....	6.00	50.00
<i>Viburnum cassinoides</i>		
1 to 2 ft.....	6.00	50.00
<i>Viburnum dentatum</i>		
6 to 12 ins.....	5.00	40.00
1 to 2 ft.....	6.00	50.00

### EVERGREENS

<i>Abies balsamea</i>		
4 to 8 ins.....	4.00	25.00
8 to 12 ins.....	8.00	60.00
<i>Thuja occidentalis</i>		
6 to 9 ins.....	4.00	25.00
9 to 12 ins.....	5.00	40.00
<i>Tsuga canadensis</i>		
4 to 8 ins.....	4.00	25.00
8 to 12 ins.....	5.00	40.00

The above stock is first-quality collected lining-out stock. Send for complete list of Hardy Native Ferns, Lilies, Orchids, Wild Flowers, Trees, Shrubs and Evergreens.

**ISAAC LANGLEY WILLIAMS**

P. O. Box 352  
Exeter, New Hampshire

## Lining-out Stock

**HESS' NURSERIES**

MOUNTAIN VIEW, N. J.



## EVERGREENS

Seedlings and Transplants  
Spring, 1950

Write for price list.  
**SUNCREST EVERGREEN NURSERIES**  
JOHNSTOWN, PA.

## HYBRID RHODODENDRONS — AZALEAS OUR SPECIALTY

Price list available on request.

**HICKORY HILL NURSERY**  
Route 25 A, Fort Salonga  
NORTHPORT, L. I., N. Y.

## D. D. KECK HEAD CURATOR OF NEW YORK GARDEN.

The fourth head curator in the history of the New York Botanical Garden has been announced as Dr. David D. Keck, now of the Carnegie Institution of Washington, Leland Stanford University, Stanford, Calif., who will assume his new position next January 1. He will succeed Dr. H. A. Gleason, a member of the garden's staff since 1919 who has twice served as head curator.

Dr. Keck received his master's degree from Pomona College, Calif., in 1925 and a Ph.D. from the University of California, Berkeley, in 1930. Meanwhile, in 1926, he had joined the Carnegie Institution of Washington at Berkeley and three years later moved to Stanford to continue an experimental project in a new laboratory building. He has been a member of the institution's staff since 1934.

Collaborating with Jens C. Clausen and William M. Hiesey in experimental taxonomy, he, with the two others as a team, was awarded the Mary Soper Pope medal of the Cranbrook Institute of Science at the 1949 meeting of the American Association for the Advancement of Science. Dr. Keck is also collaborating on a new manual of California plants.

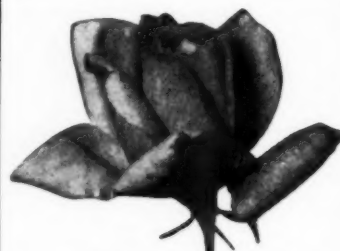
## NEW ASSISTANT DIRECTOR FOR FLORIDA STATIONS.

Dr. Joseph Riley Beckenbach, noted for his outstanding research work at the vegetable crops laboratory, Bradenton, began his new duties May 1 as associate director of the University of Florida agricultural experiment stations, Gainesville.

He is a native of Cleveland, O., and a graduate of Antioch College, Ohio State University and Rutgers University. From 1935 to 1937, he was assistant plant physiologist at Rutgers University. He then spent two years as associate truck horticulturist at the Everglades experiment station, Belle Glade, Fla. During the past eleven years, Dr. Beckenbach has been in charge of the vegetable crops laboratory and, with the aid of his staff, has contributed materially to the development of the vegetable and gladiolus industries of the Gulf coast area.

## PRICE TO PENNSYLVANIA.

Edwin G. Price, Jr., formerly of New Jersey, has joined the agricultural extension staff of Pennsylvania State College as a specialist in orna-



## NEW DARK VELVETY RED

No. 112

and other fragrant

## SUB-ZERO HYBRID TEAS

Large and beautiful as any.  
Easy to grow and long to live.  
Save replacement expense.  
Also Yellow and Orange Climbers.

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**BROWNELL ROSES**  
LITTLE COMPTON, R. I.

## FOR 52 YEARS

Our business has been  
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Azaleas

Perennials, Roses

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## HEMLOCK

Rhododendron — Kalmia  
Azalea

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CALICOON, N. Y.

## LINING-OUT STOCK

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DRESHER, PA.

## BURR

Leading wholesale source for  
Nursery Stock

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Manchester, Conn.

mental horticulture. Born at Newark, N. J., he was graduated from the Irvington high school in 1939 and from Rutgers University in 1943. He served in the army air force from 1943 to 1946 and achieved the rank of technical sergeant.

Upon his return to civilian life, Mr. Price became a laboratory assistant in the botany department of Rutgers University and later was soil technician for a commercial company. He received a master of science degree from Rutgers in 1949.

In his work in Pennsylvania, Mr. Price is concerned with conducting extension meetings for commercial florists, in home and community beautification, outdoor gardening and 4-H garden club work.

#### DAVIDSON JOINS STAFF AT MICHIGAN STATE.

Harold Davidson, new staff member of the department of horticulture at Michigan State College, East Lansing, will serve as cochairman with F. L. O'Rourke, professor of horticulture and nursery management, for the third annual nursery and landscape management conference at Michigan State College, July 13 and 14.

A graduate of the nursery management course at the Long Island Agricultural and Technical Institute, Farmingdale, N. Y., Mr. Davidson received his practical training at the estate of W. R. Coe, working in ground maintenance and nursery greenhouse and conservatory practices. In March, 1940, he was appointed as a student gardener at the New York Botanical Garden.

Mr. Davidson's civilian career was interrupted in 1940 when he joined the army as a private. He was commissioned a second lieutenant in 1942 and served as a signal officer with the twelfth army in Europe until his discharge as a captain in 1946.

HAVING a 3 1/2-acre tract at Fennville, Mich., Robert Westveld is planting lining-out stock to start a nursery. The address is Route 1, Box 7.

PLACING second in the recent election for a director of the United States Chamber of Commerce to represent agriculture, Frank S. LaBar, of LaBar's Rhododendron Nursery, Stroudsburg, Pa., polled thirty-six and one-half per cent of the votes cast, while the winning candidate, E. J. Grimes, a Minneapolis grain dealer, polled forty-seven per cent.

## LINING-OUT STOCK

Spring, 1950

Write for Our Illustrated List

### SEEDLINGS

	Per 100	Per 1000
White Spruce, 3-0, 2 to 4 ins.....	\$4.00	\$22.50
Black Hills Spruce, 3-0, 2 to 4 ins.....	4.00	22.50
Douglas Fir, 2-0, 1 to 4 ins.....	3.00	18.00
Concolor Fir, 2-0, 1 to 4 ins.....	4.00	25.00
Dwarf Montana Mugho Pine, 2-0, 1 to 4 ins.....	3.00	25.00
Austrian Pine, 2-0, 2 to 4 ins.....	3.00	25.00
White Pine, 2-0, 2 to 4 ins.....	3.50	28.00
American Arborvitae, 2-0.....	3.00	20.00
Oriental Arborvitae, 2-0.....	3.00	15.00
Green Barberry, 2-0, 6 to 12 ins. (5000 at \$6.00 per 1000).....	2.00	8.00
Papyrifera Birch (cream bark, not white), 2-0, 12 to 24 ins.....	7.50	50.00

Terms: Cash with order. Packing included in price; shipment by express collect.  
25 at 100 rate; 250 at 1000 rate; will quote on 5000 or over.

**E. C. MATTHEWS**

Telephone: 123

HARBOR SPRINGS, MICH.

### 100 Beautiful, Heavy GREEK JUNIPERS

Cut back 2 years ago.

30 to 36 ins. tall, 30 to 36 ins. wide.

B & B, F. O. B. Nursery, \$4.00 each.

**ANDERSEN'S EVERGREEN NURSERY**  
SCOTTVILLE, MICH.

## NORTHERN-GROWN EVERGREENS

SPRUCE - JUNIPER

TAXUS - ARBORVITAE

Write for list.

**BROWN DEER NURSERIES**

P. O. Box 1747

Milwaukee 1, Wis.

"True Varieties" Is Not a Boast... It's A HABIT!	
<b>ROSEBUSHES</b>	<b>PECAN TREES</b>
Licensed Grower, All-America Introductions.	WALNUT, FIG
<b>ARP</b>	PERSIMMON
<b>NURSERY CO.</b>	Wholesale Catalog.
Refrigeration.	TYLER, TEXAS
AVOID HEELYARD HAVOC.	GET YOURS FIELD-FRESH AND FREEZE-FREE.

### AZALEAS: KINDS AND CULTURE

by H. Harold Hume

A source of practical up-to-date information. Chapters include propagating, soils, planting, culture and care, feeding, pruning, azaleas as pot plants, greenhouse culture, insects and diseases. 63 black and white illus.; 9 in full color. 200 pages. (1948). \$4.00, postpaid.

AMERICAN NURSERYMAN

343 S. Dearborn St.

Chicago 4, Ill.



# This Business of Ours

*Reflections on the Progress and Problems of Nurserymen*

*By E. Sam Hemming*

## APPRECIATION LACKING FOR GOOD LANDSCAPING.

We who are interested in executing good landscaping seem to be guilty of a kind of duality in our work. Given the opportunity, we create pictures that are obviously pleasing and in good taste. Yet, too often we revert to a stereotyped monotony, particularly when customer resistance is great. The real trouble lies in the difficulty of educating the great mass of small homeowners in an appreciation of good landscaping. In fact, I fear they are being influenced too much in the wrong direction.

It is easy enough to persuade a wealthy customer to plant a simple, tasteful planting which is in keeping with the architecture of the house and its well decorated interior. It is difficult, however, to talk the small homeowner into two \$50 English boxwoods, a \$75 shade tree off the sunny corner of the house, a good lawn and some English ivy ground cover trim at the base of the house. He usually wants many more plants than that for his money. What he usually wants and gets is what my stenographer once facetiously called "two tall ones by the door, two spreading ones under the windows, two more tall ones at the corners and so on around the house."

There are other factors that make the education of the untutored customer difficult. Throughout this section on the east coast, and I imagine throughout much of the nation, most of the new homes being built are a sort of triple hybrid. They seem to be part Cape Cod and part modernistic, with considerable influence from Colonial Williamsburg. While they can lend themselves to good landscaping, a really good style has not yet crystallized itself. Adding to the monotony is the overuse of dwarf yews, which seems to be the landscape man's besetting sin at present.

Not long ago a nurseryman remarked to me that he no longer sold arborvitae and that he only sold choice plant material. What nonsense! A properly placed arborvitae in an old garden can be a plant of real beauty. Similarly, a spiraea, a barberry or any other common plant can be beautiful when happily located.

For another weakness in educating the small homeowner, I blame the garden and home magazines. Have you ever noticed that when a certain article is about landscaping or gardening, the illustrations invariably show plantings in good taste? However, when the principal theme of the article is concerned with architectural design or construction, the subject in question is either not landscaped, or worse still, atrociously so.

A booklet on tasteful home plantings, similar to the National Landscape Nurserymen's Association's booklet, "Industry Need Not Be Ugly," might be successful in educating the public if edited regionally and given wide distribution. We seem to have plenty of room for improvement in home planting.

E. S. H.

## A SIGN OF THE TIMES.

Twenty years ago, a man would have been considered quite foolish if he built a city-type apartment

building six miles from the nearest town and seventy-five miles from the nearest large city. Yet, such a building was recently put up in this vicinity, and all but two of the apartments were rented before the building was completed. The apartments are in the \$125 to \$150 per month class.

It is true that the building is on the water front in a section where there are fine farm estates as well as better class small properties. These homes are largely owned by persons of some means who have retired or by part-time residents who still are active in business or professions in the city.

These apartments are attractive, not only for their surroundings, but also for the available recreational facilities. The idea of the buildings was partly based on the wish of the owners to get away from it all, at least for a time. The apartment project would have seemed ridiculous until recently when the shortage of domestic and garden help and laborers made it practical. Now, to have the fishing, sailing and other recreational facilities, people are content to live in apartment conditions.

## ATTENTION!

### Nurserymen and Landscape Contractors

The following stock must be sold to make space for a housing project. Make an offer on the following:

- 200 Hicks' Yew, 24 to 30 ins.
- 50 Silver Pfitzer Juniper, 24 to 30 ins.
- 50 Golden Arborvitae, 12 to 24 ins.
- 50 Spreading Yew, 18 to 24 ins.
- 50 Pyramidal Arborvitae, 4 to 5 ft.
- 100 Globe Arborvitae, 18 to 24 ins.
- 100 Mugho Pine, 18 to 24 ins.
- 100 Irish Juniper, 30 to 36 ins.
- 150 American Arborvitae, 30 to 36 ins.
- 50 Silver and Red Cedar, 4 to 5 ft.

### KANKAKEE VALLEY NURSERY

511 North Walnut St.  
MOMENCE, ILL.

### JUNIPERUS PFITZERIANA

	Per 100	Per 1000
2 1/4-in. pots . . .	\$22.50	\$200.00
Rooted cuttings	10.00	95.00

### THE HENRY NURSERIES

Ingels Bros.  
HENRY, ILL.

The **CHRYSANTHEMUM**  
CATALOG you cannot afford  
to be without.

**WONDERLAND NURSERIES**  
Ellerson, Va.

### Let SHERMAN'S supply your needs in . . .

Apple Trees  
Plum Trees  
Cherries  
Small Fruits  
Ornamental Shrubs  
Shade Trees  
Phlox  
Roses  
Perennials

Write for quantity prices on the above.

**SHERMAN NURSERY CO.**  
CHARLES CITY, IOWA

### SPECIMEN LANDSCAPE MATERIALS

*Our Specialty*

## TAXUS

**W. A. NATORP CO.**

Cincinnati 29, Ohio

### CHINESE CHESTNUT TREES

Blight-resistant.

**TREES—TRANSPLANTS—LINERS**

**THE GOLD CHESTNUT NURSERY**

Cowen, W. Va.

Naturally, any trend of this sort will have an effect on the landscape and nursery business, although it will not be all bad. The apartment house still has to be landscaped, as does the long approaching driveway. Also, if this sort of thing continues, there may even be communal gardens.

The changing times certainly have produced some new ideas and developments. E. S. H.

### PONDS.

Until very recently most of us looked at any wet or marshy spot on our property with the hope of some day draining the area to produce additional cultivatable ground. Today, we know that is wrong and that, if anything, we would be better off making a pond or lake out of it.

When soil conservationists remake a farm they not only contour the land and plant windbreaks, but they invariably build a farm pond.

Ponds have many uses. The most important is to maintain the water table in the adjacent land. Drain the marsh, and you can easily drain your shallow wells and dry out your upland soils. Pond water can be used to supplement well water used in irrigation of your nursery. Ponds are of considerable help in fire protection, particularly in rural areas where the lack of water may mean the loss of valuable buildings.

In addition, ponds can be used for growing water lilies and keeping fish. Did you know you can grow bigger fish by dumping fertilizer in the pond? Last but not least, ponds can be an area of attractiveness and beauty to a nursery and, in consequence, a real sales and advertising asset.

Shortly after we started our nursery we dug some lily ponds beside a small stream we had, and then further along the stream we put in an earthen dam that formed a lake about an acre in size. The dam was constructed without proper engineering advice, and several years after it was built seventeen inches of rain in two days removed the dam. By that time we were in the middle of the depression, so that we could not afford to reconstruct it. The idea was good, and while the landscape development had not advanced very far, the ponds and dam made a considerable impression on our customers, some of whom still ask us about them. During its short existence our pond saved us forty acres of good woodland that a neighbor accidentally set afire.

Besides the water lilies, lotus and goldfish we sold, we had planned to

## SPRING, 1950, WHOLESALE PRICE LIST

### Rooted Evergreen Cuttings

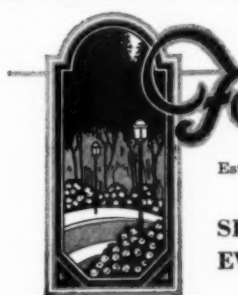
FIELD FRAMES		Per 100	POTS—Continued		Per 100
Juniperus Hetzi Glauca	475 8 to 10 ins., 3-yr.	\$27.50	Taxus Media Hicksi	2100 6 to 8 ins., pots.	\$25.00
1000 8 to 10 ins., 2-yr.	25.00		500 8 to 10 ins., pots.	27.50	
Juniperus Hor. Pl. (Andorra)	2000 8 to 10 ins., 2-yr.	20.00	Juniperus Chin. Pfitzeriana	250 6 to 8 ins., pots.	20.00
Thuja Occ. Globosa	1000 6 to 8 ins., 3-yr.	22.50	200 dwarf, pots	30.00	
1800 6 to 8 ins., 2-yr.	20.00		Euonymus Vegetus Coloratus	2000 9 to 12 ins., 2-in. pots.	20.00
Thuja Occ. Pyramidalis	1000 6 to 8 ins., 2-yr.	22.50	Pachysandra Terminalis	1000 6 to 9 ins., 2-in. pots.	17.00
POTS		Per 100	PACKING FREE		
Juniperus Hetzi Glauca	1800 6 to 8 ins., pots.	\$25.00	Orders will be filled in turn as received while our stocks last, subject to conditions beyond our control.		
Juniperus Hor. Pl. (Andorra)	2100 6 to 8 ins., pots.	20.00	An order for 25 of the same variety and size sold at the 100 rate.		
Taxus Cuspidata	1000 6 to 8 ins., pots.	25.00	Minimum order, 100 plants.		
1400 4 to 6 ins., pots.	22.50		We would welcome your inspection.		
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## COVER ILLUSTRATION.

### Rosa Virginiana.

Probably there is no more popular group of plants in commerce today than the roses. Some 150 to 200 species of roses are known to exist in the temperate and subtropical regions of the northern hemisphere. Over 5,000 varieties of the rose have been listed in publications. Of course, in recent years most of the emphasis has been placed on the hybrid tea and floribunda roses. Even though these types of garden roses give an excellent display of flowers, nurserymen and landscape gardeners should not overlook the best of the species roses.

Without a doubt, one of the most attractive and all-around useful of the rose species is *Rosa virginiana*, or *Rosa lucida*, the Virginia rose. It will grow to a height of six feet, but is more often about four to four and one-half feet tall. It is upright and spreading in its habit of growth and has a considerable tendency to sucker.

The Virginia rose is native of the territory extending from Newfoundland to Virginia and west into Alabama and Missouri. It was introduced into cultivation in 1807. It is perfectly hardy throughout this territory.

The plant is upright-spreading in its habit of growth, the stems presenting an interesting red color particularly during the winter months. Differing from most rose species, the stems bear relatively few prickles.

As with all roses, the leaves are alternate on the stems, and each leaf is composed of seven to nine excellent glossy green leaflets. The leaflets average about one and one-half inches in length. The excellent glossy green foliage of the growing season turns to an attractive orange-yellow color in the autumn.

These flowers are bright rosy-pink in color, averaging about two inches across, and are produced from early June into July. They are most attractive against the glossy green foliage and the red stems.

Another attractive characteristic of the plant is the fruit. The red hips, which are about one-half inch in

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diameter, ripen in the fall and last well into the winter. Coupled with the red stems they present an attractive early winter effect.

The Virginia rose is not particular about soil and will thrive well in any good garden soil.

Propagation is usually accomplished from seeds, which exhibit a rest period. This resting condition can be broken by storing at a cold temperature for several months.

The Virginia rose will find its best use as a border plant. It combines well with other shrubs and with evergreens. Under some conditions it may have to be restrained because of its rank growth. It is an excellent shrub for highway bank planting and for informal masses and can also be used effectively as an informal hedge.

L. C. C.

**USE OF SAWDUST FOR ERICACEOUS CROPS.**

[Concluded from page 8.]

were making vigorous growth. Here again weeding and hoeing costs were cut by seventy-five per cent.

We are still in the early stages of experimentation with sawdust. We have tried it as a medium for bedding grafting stock in our benches, but it proved unsatisfactory for this. We bedded all our magnolias growing in pots in a 3-inch layer of sawdust in the deep frames to carry them through the winter, and for this purpose it seems to be ideal. We used it also for bedding surplus quantities of Rhododendron ponticum in pots so that we could have material available in the spring for grafting. We have yet to see the results of all these experiments, but what we have at the present time is certainly encouraging. We do not suggest that sawdust can replace entirely other forms of humus material. We do suggest, however, that about all types of sawdust and of any age can be used in many ways on any nursery. All that is needed is a little common sense and a knowledge of the conditions which have to be met when using this material.

DISCONTINUANCE of their nursery line has been announced by Mr. and Mrs. Frank J. Long, who operate a florists' business, South Side Gardens, Clintonville, Wis.

NEW manager of the Howe Plant Market, Madison, N. J., which has recently renovated its offices and greenhouses, is Jan W. Ebbinge, formerly employed at Bobbink & Atkins, East Rutherford, N. J.

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## Elm and Oak Insects

A discussion of "Some Troublesome Insects and Their Control" was given January 23 at the Ohio short course for arborists at Columbus by Dr. George S. Langford, department of entomology, University of Maryland. He spoke on the basis of practical operating programs which the arborist may use to educate his clients to the need of spraying, for it is important for both client and arborist to know when various sprays should be applied, the insects being killed by them and what to expect from the sprays.

Practical spray schedules for group insect control are needed, according to Dr. Langford, who stressed the idea of mixing sprays to kill several kinds of insects with one application. Effective spray materials he mentioned are oil sprays, lime-sulphur, dinitro ortho cresol, DDT, arsenate of lead and calcium arsenate; and the residual sprays, DDT, Lindane and Chlordane. Tetraethyl pyrophosphate, one of the new sprays, is a tremendous asset to any spray mixture where it can be used safely, for it is effective in killing a host of insects. Parathion, which he described as a stomach poison, a contact insecticide and a residual spray all wrapped up in one, is dangerous and should not be used in places frequented by small children, pets and domestic animals.

### Control of Elm Insects.

A review of the insects that attack elm that may be controlled during various months, showed May as the most critical time for controlling insects. Dr. Langford's list of insects that may be controlled in the early part of the month, from May 1 to 15, include: Spring cankerworm, fall cankerworm, woolly aphid, leaf-curl aphid, cockscomb gall, elm-leaf aphid, elm bark beetle, elm-leaf beetle, elm-leaf hopper, elm borer and the elm snout-beetle.

To be controlled during the last half of the month of May are the following insects: Bagworm, white-marked tussock-moth, leopard moth, elm case-bearer, elm scurfy scale, oyster-shell scale, elm-twig girdler, elm-leaf miner, spiny elm caterpillar and spider mite.

Many of these insects are also troublesome in June. If they were not killed in May, the June spray should control them. Dr. Langford listed the early June insects to be treated as follows: Elm-leaf hopper, elm-leaf

miner, elm sawfly, elm bark beetle, bagworm, elm scurfy scale, Putnam's scale, elm borer, elm snout-beetle, May beetle or June bug, spider mite and aphid. The insects that should be brought under control in the last half of the month, from June 16 to 30, are the Japanese beetle, fall webworm, European elm scale, elm lace-bug, aphid, as well as the leopard moth, which is found all through the month.

During July, according to Dr. Langford, Japanese beetle, elm borers, fall webworm, spider mites, leaf-hoppers, white-marked tussock-moth, elm bark beetle and elm bark beetle eggs should be treated. Those mentioned for control in August were the Japanese beetle, European elm-leaf beetle, spiny elm caterpillar, fall webworm, spider mite, aphid, scurfy elm scale and elm bark beetle, while the September pests are aphid, spider mite, leaf hopper, elm bark beetle and some of the aphid eggs.

During the dormant period, from

October to mid-April, at times when the temperature is above 40 degrees, and preferably in early spring, the scale insects, eggs of spider mites and aphid, and elm bark beetles may be killed.

### Elm Insects Identified.

Dr. Langford mentioned some of the insects that attack elm and briefly described them for identification. The cankerworms, *Paleacrita vernata* (Peck) and *Alsophila pometaria* (Harris), are measuring worms that chew leaves. The Japanese beetle, *Popillia japonica* (Newm.), which is a large green beetle with coppery wing covers, can be recognized by its handiwork of skeletonized leaves. If a tree has been attacked by the elm-leaf beetle, *Galerucella xanthomelaena* (Schrank), the leaves show holes and skeletonization from yellowish larvae and beetles.

The fall webworm, *Hypantiria cunea* (Drury), are hairy caterpillars that build terminal nests and chew leaves. The large tan or brownish beetles that defoliate trees at night are May beetles, *Phyllophaga* sp. Spiny elm caterpillars, *Euvan-*

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nessa antiopa, were described by Dr. Langford as large, spiny, black, red-marked caterpillars that chew leaves. The bagworms, *Thyridopteryx ephemeraeformis* (Haw.), are bag-inhibiting worms that chew foliage. The elm case-bearer, *Coleophora limosipennella* (Dup.), can be recognized by the tiny cigar-like cases hanging from angularly spotted leaves or on the bark in the winter.

The white-marked tussock-moth, *Hereocampa leucostigma* (S. and A.), are described by Dr. Langford as red-headed, tussock-bearing, yellow and black-striped caterpillars, which bear tufts of long black hairs, two anteriorly and one posteriorly. When the leaves of an elm are eaten by coiled yellowish-white worms, the pest can be identified usually as the elm sawfly, *Cimbex americana* (Leach). The elm-leaf miner, *Kaliotenus ulmi* (Sund.), can be identified by the irregular blister-like mines, which contain tiny grubs, on leaves.

Small twigs with fresh leaves dropping to the ground in June can be blamed to the work of the elm-twig girdler, *Oberea tripunctata*. The tiny almost invisible mites that bronze, discolor and dwarf foliage are spider mites. Rosette-like curling of leaves is caused by woolly aphis, *Eriosoma lanigerum* (Hausm), while leaves that are cupped at the outer edges are usually caused by another woolly aphis, the leaf-curl aphis, *Eriosoma americanum* (Riley). Aphis are the soft-bodied lice on leaves and shoots.

Continuing his description of insects that attack elm, Dr. Langford said the cockscomb gall, *Colophila ulmicola* (Fitch), can be recognized by the elevated and elongated leaf galls resembling a cock's comb. The galls are filled with lice, or aphis. The elm-leaf hopper, *Scaphoideus luteolus*, are active hopping insects that cause a stippling on leaves and transmit phloem necrosis. The elm lacebug, *Corythucha ulmi* (O. and D.), are lace-winged insects found with their young on the undersurface of leaves. They feed by sucking.

The elm scurfy scale, *Chionaspis americana* (Johns.), are irregular oval whitish scales on twigs and bark. Tiny oyster-shell like scales on twigs and branches is the oyster-shell scale, *Lepidosaphes ulmi* (Linn.). Circular grayish scales with a brick-red central exuvium or spot are identified as Putnam's scale, *Aspidiotus ancyclus* (Putn.). The European elm scale, *Gossyparia spuria* Mod., resemble a tiny bird's nest and are white-fringed scales in crevices or the bark of a tree.

[Continued on page 55.]

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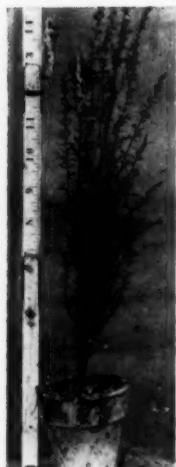
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## CALIFORNIA FLOWER SHOW.

[Continued from page 10.]

leas and pink and white hydrangeas were featured in the design.

Designed to be in keeping with the show's theme, the exhibit of the Flowerland Nursery, Albany, featured a rocky slope with plantings of Kurume and mollis azaleas, Sappho rhododendrons and tree ferns.

Roses were displayed along the path to the prize-winning outdoor garden of Crombie Nursery, Oakland. Such standard roses as Mark Sullivan, Mme. Henri Guillot and Fred Edmonds were displayed, while another section featured the climbing roses, Texas Centennial and Mrs. Sam McGredy.

Standard roses in the circle Court of Pacific Nations were supplied by Clyde Stocking, San Jose, who also presented an exhibit in the outdoor section. Two new roses on display for the first time were Bravo, a dark red, and First Love, a pink.

Modern sculpture highlighted the informal garden of colorful plants entered in the show by Don Coates Nurseries, Hayward.

### Educational Exhibits.

The Bulkley medal was awarded to the California Horticultural Society by the Garden Club of America for the best and most artistic educational achievement. The society's exhibit centered about a wide selection of native California plants.

Other educational exhibits were presented by the California Herb Society and the Pacific Coast Horticultural Society, which used plants contributed by the East Bay Nursery, Berkeley.

Background of the exhibit of the Horticulture Society of the City College of San Francisco was provided by redwood boxes filled with azaleas. A bricked floor was laid in an attractive pattern while pansies, delphinium and primulas gave color to the entry.

Also cooperating in the show were the park departments. The Oakland park department used the theme of Mother Goose stories and other children's tales for its exhibit; the East Bay regional park district presented an azalea display, and the Golden Gate park exhibited rhododendrons and azaleas in an outdoor garden.

Trade exhibits were displayed by the following: Atlas Chemical Co.; California Spray Chemical Corp.; R. L. Chacon Chemical Co.; Felsing's Rare Carnations; Ferry-Morse Seed Co.; Floral Arts Nursery; George L. and Marie Funk; Germain's, Inc.; Kerrigan Nursery; McDonnell Nursery; Navlet's, Oakland; Pacific Guano

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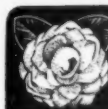
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### BUILDING IN TEXAS.

In gauging the future sales possibilities for his company, Stephen G. Verhalen, vice-president and sales manager of the Verhalen Nursery Co., Scottsville, Tex., discovered some encouraging figures in home construction in Texas. He writes as follows:

"During the past few months, in my visiting about the country, I have heard some remarks about tight dollars. A few nurserymen have gone so far as to report a decrease in actual sales. Let us be fair with ourselves and try to strike a proper balance between optimism and 'scarcism.' It appears that some of us are looking for hardships and even wondering why they don't come.

"There are many circumstances which could and probably have caused a decrease in sales in the few scattered cases where they might have occurred. We find in our own business that in the western part of Texas an unduly dry winter has hurt sales, and we show a decline in business there. On the other hand, to the east and north we have shown an increase in sales.

"A person need only to go as far as his local chamber of commerce or city engineer's office for a few figures and he will be convinced that money is still being spent freely. For instance, the building of homes in some of our neighboring cities is a good sign. For nurserymen it is our most important barometer.

"In Tulsa, Okla., 4,000 homes are expected to be erected in 1950, against 3,500 in 1949. In Dallas, homes built in January totaled 1,288 against 954 in 1949, and in February 1,405 against 952. In Fort Worth, 1950 figures were January, 375; February, 481; March, 704, against 1949 figures of January, 192; February, 232; March, 342.

"If my figuring is correct, Houston is the only one of the group which shows a decrease in home building. The Houston report was not so precisely given as that from the other cities replying to the request for this information.

"This view of the future is most encouraging to me."

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# New Books and Bulletins

## REGIONAL PLATE BOOKS.

Nurserymen and nursery salesmen have found color pictures of plants to be excellent sales aids, but, since most of the booklets and folders of such plant pictures have been designed for general use, many of the plants illustrated are suitable for one region but not for another. In order to make such plate books more useful, A. B. Morse Co., St. Joseph, Mich., has supplemented its folders and booklets for general use with three new color plate books for three specific areas.

Each booklet shows in color standard nursery items for the designated region. The pages are covered with pictures of evergreens, flowering trees and shrubs, shade trees, roses, perennials and bulbs together with brief catalog descriptions. Some of the illustrations show only the flower, others the entire plant and some complete plantings.

Designed for nurserymen in the northeast and midwest is a 7 1/4 x 9 3/4-inch booklet entitled "Better Fruits and Flowers," at \$1.25 a copy in small lots. Between its covers are thirty-two pages of plant pictures that unfold to 13 3/4-inch width.

Pictures of plants for the northwest, which is the Minnesota-Dakota area, are contained in "Northwest Plate Book," of thirty-two pages and cover, of 9x12-inch size, at \$1.25 a copy.

An 8 1/2 x 11-inch booklet of sixty-four pages and cover is for the southwest, or the Missouri and Kansas to Texas area. "Southwest Plate Book" is \$2 a copy.

## MICHIGAN SHRUBS.

Written by Cecil Billington, an ardent botanist who has made one of the finest private herbaria in Michigan, "Shrubs of Michigan" is a nature guide for the amateur botanist, for an attempt has been made to furnish the user with not only current authentic botanical names for shrubs, but other interesting information about them as well. The author includes in this 339-page volume such topics as shrubs in relation to the conservation of wildlife, use of shrubs in landscape plantings, rare and infrequent species, plant names and their authors and origins, and the form and structure of shrubs as well as shrubs of Michigan.

Priced at \$4.50, the book is now on its second edition and is published

by Cranbrook Institute of Science, Bloomfield Hills, Mich. Forty-six shrubs have been added to the 161 discussed in the first edition, color plates have been added and the text has been revised.

## BOTANY FOR BEGINNERS.

A college textbook that employs all the modern methods for as quick and easy reading and learning as is possible, the 479-page "Botany" was written by two professors of the subject at the University of California. W. W. Robbins and T. E. Weier are to be commended for their use of a double-column format, profuse use of illustrations (490 in 479 pages), lack of abbreviations, deliberate use of repetition and other considerations for the student. Their text eliminates all extraneous material and controversial viewpoints that could not be understood by the beginner.

While the book presents basic facts, there is also an attempt to instill in the reader a greater appreciation and understanding of plant science by pointing out its relation to agri-

## AMERICAN NURSERYMAN

culture, forestry, medicine and other subjects. Published by John Wiley & Sons, Inc., New York, "Botany" sells for \$5.

## BULLETINS RECEIVED.

Experiments on the use of water by trees, tree responses to soil moisture conditions, irrigation during the growing season and on a seasonal basis and the influence of irrigation on root distribution were conducted by Prof. F. J. Veihmeyer and A. H. Hendrickson, both of the California agricultural extension service, University of California, Berkeley. Their findings are summarized in a 24-page bulletin issued by the extension service as circular 50 on "Essentials of Irrigation and Cultivation of Orchards."

The exacting cultural requirements of the begonia are discussed by H. M. Butterfield, agriculturist at

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the California agricultural extension service, University of California, Berkeley, in circular 162 issued by the service and entitled "Growing Begonias in California." Numerous illustrations and charts in the 44-page bulletin illustrate other sections on propagation, insect pests and diseases. Over half of the bulletin is devoted to the classification of different kinds of begonias, with tables by which each type may be classified.

The commercial growing of plants in artificial media is rarely superior to soil culture and is justifiable under limited conditions and only under expert supervision, according to D. R. Hoagland and D. I. Arnon. Their 32-page bulletin on the subject, entitled "The Water-culture Method for Growing Plants Without Soil," has been issued by the college of agriculture, University of California, Berkeley, as circular 347.

Although camellias require considerable attention, and success in raising them is not always certain, the delicacy and beauty of camellia blooms are usually sufficient reward to California gardeners for the trouble undertaken. Of great assistance to this group should be the 24-page circular 164 of the California agricultural extension service, University of California, Berkeley, which discusses "Camellia Culture in California." Author H. M. Butterfield covers the expenses involved in raising this ornamental, its requirements, cultural practices, propagation, diseases and pests. Popular varieties of pink, red, white and variegated camellias are classified and described in a concise listing.

#### ENGLISH HONORS FOR W. B. CLARKE ORIGINATIONS.

Already the recipients of four awards of merit from the Royal Horticultural Society, London, England, W. B. Clarke & Co., San Jose, Calif., were recently notified that two more of their originations have been chosen for this honor. They are the flowering peaches, Aurora, introduced in 1937, and Iceberg, introduced in 1927.

Previous winners of the award of merit for W. B. Clarke & Co. were two flowering peaches, Helen Borchers and Weeping Double Pink; a flowering quince, Enchantress, and a flowering cherry, Pink Star.

PERMIT for a commercial nursery to be built by Harry M. Ide at Concord, Calif., was approved by the county planning commission recently.

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64 pages, 3000 names, 25¢ per copy  
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**CENTRAL CHAPTER MEETS.**

A fine steak dinner was enjoyed by the sixty nurserymen and guests gathered at Don's, Dublin, Calif., April 13, for the regular meeting of the Central chapter of the California Association of Nurserymen. Presiding was President Bert Plath, H. Plath & Sons, Inc., San Francisco.

Among the guests present was Stanley Keene, of Roy F. Wilcox & Co., Montebello, and an entire guest table was filled with some of the family and employees of Ray D. Hartman, operator of the Leonard Coates Nurseries, Inc., San Jose.

Secretary John Snyder, Jackson & Perkins Co., Pleasanton, reported on a meeting of the executive committee, at which it was decided to exert every effort toward forming a new chapter in the Watsonville-Santa Cruz area before the state convention at Santa Cruz, September 12 to 14. The membership chairman, Jack McDonnell, McDonnell Nurseries, Oakland, is to arrange with the executive secretary of the state association, Elmer Merz, to contact personally all potential members in that area. Also working on the membership drive are Clifford Hyde, H. A. Hyde Co., Watsonville; Frank Vetterle, and a representative from the Leonard Coates Nurseries, Inc.

Ernest Esch, Esch Nursery, San Jose, reported on the first garden forum held at San Jose. Over 250 home gardeners attended this meeting, held April 10, and the response from the floor was most gratifying. Ray Hartman acted as moderator, and the forum speakers included John Edwards, Millbrae; Clyde Stocking, San Jose, and Fred Hammarstrom. Additional meetings were scheduled for the three successive Mondays, and a garden forum has been scheduled for May 18 at Lafayette, with Jack Schneider, Orchard Nursery & Supply, Lafayette, in charge.

President Plath announced that the refresher course for nurserymen would be held at California State Polytechnical College, San Luis Obispo, May 24 and 25, and that those who attended the first course held last year were well repaid for the time spent. A brief report on the forthcoming state board of directors' meeting scheduled for April 20 was given by John Edwards, a board member.

After showing a Technicolor movie on modern nursery practices, compiled over a 10-year period at Leonard Coates Nurseries, Inc., Ray Hartman explained that the film was

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Arbors		Each
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Portal, 3x3 posts, lattice top .....		8.75

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prepared to acquaint the public with the nurserymen's problems as well as to show why a reasonable price must be charged for nursery products.

John Snyder, Sec'y.

#### PACIFIC COAST GRAPE.

A highly productive shipping and storage grape for California is the new variety Calmeria, according to the United States Department of Agriculture. The fruit is larger and of somewhat sweeter flavor than Chanez, which it is expected to replace. Like the former, the Calmeria grape is greenish-yellow with a light gray blossom and has two to four seeds of medium size to each fruit.

Calmeria is a seedling of Chanez and was selected by Elmer Snyder and associate plant scientists at the United States horticultural field station, Fresno. It is superior to Chanez in productivity and quality of fruit in addition to setting berries more uniformly on the clusters.

Recommended for trial in vinifera grape areas where Chanez and Emperor varieties now grow, because of the late maturity from late September to early October in the Fresno area, it requires at least 200 growing days between killing frosts.

#### WEST COAST BLACKBERRY.

A newly released blackberry variety that retains its bright black color and firm texture through canning and freezing is the Olallie, a vigorous-growing, trailing type that produces high yields of berries that are somewhat longer than Boysen and nearly as large.

Released by the United States Department of Agriculture and the Oregon agricultural experiment station for production in the west, the new berry's flavor is considerably better than that of Boysen when grown in California, but in Oregon the flavor is not so high in some seasons. Limited tests in the state of Washington indicate that the new variety is not hardy in the northern part of Washington.

A cross between the Black Logan and the Young varieties, the Olallie was selected by George F. Waldo, an agricultural department scientist working in small-fruit breeding at Corvallis, Ore.

THE Gardena property of the L. B. Merrick Nurseries has been sold in order to consolidate operations at the main office and growing grounds, at 9531 East Whittier boulevard, Pico, Calif.

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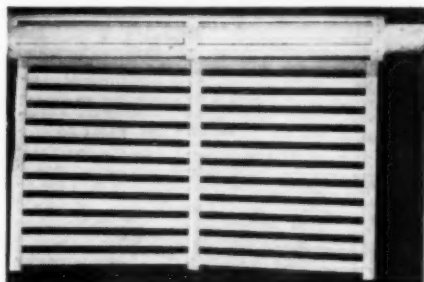
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Golden Queen, yellow rasp. ....7.00 .....  
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**IDEAL FRUIT FARM, Stillwell, Okla.**

**GREAT BAY STRAWBERRY**—New introduction by New Hampshire station. A large, medium-late, heavy-yielding berry produced on giant plants. To date has out-yielded standard varieties such as Premier and Catskill. Plants, \$3.50 for 25; \$6.50 for 50; \$12.00 per 100, postpaid. \$27.50 per 250; \$48.00 per 500; \$85.00 per 1000, express collect.  
**PINE-CROFT NURSERIES, Exeter 3, N. H.**

**STRAWBERRY PLANTS—State certified,** twice inspected. Robinson, \$9.00 per 1000; Premier, Catskill, Fairfax and the new Fairland, \$11.00 per 1000. Everbearing varieties: The new Superfection, \$22.00 per 1000; Streamliner, \$15.00 per 1000; Minn. 1166, Mastodon and Gem, \$12.00 per 1000.  
**GATEWAY NURSERY**  
New Buffalo, Mich.

**STRAWBERRY PLANTS.**  
Northern-grown; doubly inspected.  
Per 1000  
Gem Everbearing .....\$10.00  
Premier .....10.00  
Dunlap .....7.50  
**ROBERTS STRAWBERRY NURSERY**  
Rt. 6 Kalamazoo, Mich.

**SUPERFECTION EVERBEARING STRAWBERRY**—Foundation stock plants, direct from the originator. The true advanced strain, giving advertising advantages and prestige to users of my foundation stock plants. FRANK J. KEPLINGER, originator and owner of HEART-O-MICHIGAN FARMS & NURSERIES, Farwell, Mich.

**Cumberland and New Logan** Per 1000  
Raspberry Plants .....\$25.00  
Robinson Strawberry Plants .....8.00  
Extra-fine plants after best growing season in many years.  
**ALMENA NURSERY** Paw Paw, Mich.

**STRAWBERRIES.**  
Bush-type Everbearing, Wayzata origin. Ideal plant under intensive irrigation. Divisions only \$60.00 per 1000.  
**PAULSEN'S NURSERY**  
Minden, Neb.

**Certified Minnesota Strawberry Plants.**  
Wayzata .....\$40.00 per 1000  
Improved plant Gem .....12.50 per 1000  
**ALLENORE NURSERY** Excelsior, Minn.

## BULBS AND TUBERS

**GLADIOLUS BULBS—State inspected.**  
Per 1000 No. 1 No. 2 No. 3  
Beacon .....\$20.00 \$16.00 \$15.00  
Bit o' Heaven .....20.00 16.00 15.00  
Black Opal .....20.00 16.00 15.00  
Blue Beauty .....30.00 25.00 20.00  
Buckeye Bronze .....35.00 30.00 25.00  
Casablanca .....25.00 20.00 16.00  
Corona .....30.00 25.00 20.00  
Early Rose .....20.00 16.00 12.00  
Elizabeth the Queen .....40.00 35.00 30.00  
Ethel Cave Cole .....20.00 16.00 15.00  
Heavenly White .....40.00 35.00 30.00  
Lady Jane .....30.00 25.00 20.00  
Leuwenhorst .....30.00 25.00 20.00  
Margaret Beaton .....20.00 16.00 15.00  
Picardy .....22.00 .....  
Purple Supreme .....25.00 20.00 15.00  
Red Charm .....30.00 25.00 20.00  
Red Lory .....35.00 30.00 25.00  
Rosa Van Lima .....25.00 20.00 15.00  
Silentum .....20.00 16.00 12.00  
Snow Princess .....20.00 16.00 12.00  
Spotlight (yellow) .....40.00 35.00 30.00  
Salutation .....35.00 .....  
Valeria .....35.00 30.00 25.00  
White Gold .....25.00 20.00 16.00  
Mix .....18.00 14.00 .....  
Ready for shipment. Cash or 25 per cent cash, balance C.O.D. F.O.B. Grand Rapids. Subject to prior sale, 25¢ of one variety at the 1000 rate.

**ENGLERTH GARDENS**  
4652 S. Division Ave.  
Grand Rapids 8, Mich.

**GLADIOLUS BULBS IN BRIGHTLY COLORED LABEL BOXES.**  
Gladiolus bulbs in very attractive boxes. 4-color labeled for counter sales. 12 large, rainbow mixed bulbs per box  
\$35.00 per 100 boxes; \$7.50 per 20-box case.  
Sample offer, 4 boxes for \$2.00.  
**CLEARANCE SALE: Rainbow mixed gladiolus bulbs, per 1000.**  
No. 1, \$12.00; No. 2, \$9.00; No. 3, \$7.00.  
100 at 1000 rate. Cash, please.

**JOHN G. VUCICH**  
R. F. D. 2, Napier Rd. Watervliet, Mich.

**HARDY NORTHERN-GROWN LILY BULBS.**  
New, rare, scarce and unusual as well as standard varieties.

New wholesale list now ready.  
Send for your free copy.  
**J. HENDRIKS, Grower** Portage, Mich.  
Double Tiger Lilies, 4 to 6 ins., \$8.50 per 100.  
The EVERGREEN NURSERIES, Lowell, Ind.

**50,000 DAHLIA ROOTS.** We grow many acres of standard cut flower varieties for the trade. Write today for wholesale price list.  
**PAYNE DAHLIA FARMS, Route 5, Kansas City 3, Kan.**

**The trade's market place—**  
The ads in the American Nurseryman.

## CHRYSANTHEMUMS

**HARDY CHRYSANTHEMUMS.**  
Strong field-grown divisions, state inspected.  
10 100  
Allegro, glowing salmon-pink .....\$1.25 \$8.00  
double .....1.00 6.00  
Autumn Sunlight, new golden- .....1.00 6.00  
fine .....1.00 6.00  
Betty, fine double pink for cutting .....1.00 6.00  
Burgundy, tall wine-red for cutting .....1.00 6.00  
Candlelight, early cream-white dbl. ....1.00 6.00  
Chas. Nye, buttercup-yellow dbl. ....1.00 6.00  
Chippewa, large showy .....1.00 6.00  
Aster, purple .....1.00 6.00  
Chris Columbus, tall fine .....1.00 6.00  
Ivory-white .....1.00 6.00  
Early Bronze, nice bronze Pompon .....60 3.00  
Early Wonder, large soft pink Pom .....1.00 6.00  
Ember, brilliant orange-bronze .....75 4.00  
Fleur, bushy plants; deep purple .....1.00 6.00  
Glomero, bronze gold Pom; .....75 4.00  
tall stems .....1.00 6.00  
Glowing Coals, deep cherry-red; .....1.00 6.00  
(SD) .....1.00 6.00  
Harbinger, fine early bronze cut fl. ....75 4.00  
Jackie, brilliant crimson double .....1.00 6.00  
Olive Longland, apricot-toned dbl. ....1.00 6.00  
Pink Radiance, extra hardy soft .....1.00 6.00  
pink .....1.00 6.00  
Polatcong, early double deep rose .....75 4.00  
Sept. Sunshine, bright early yellow .....1.00 6.00  
White Wonder, ball-shaped Pom; .....1.50 10.00  
tall .....1.00 6.00  
Zantha, canary-yellow; long .....1.00 6.00  
season .....1.00 6.00  
**LOW-GROWING AND CUSHION TYPES.**  
Bronze Cushion, pinkish bronze; .....\$0.60 \$3.00  
early .....1.00 6.00  
Butterball, very early deep yellow .....1.00 6.00  
Champion Cushion, bronze-red .....75 4.00  
(SD) .....75 4.00  
Dahliaum, early wine-red; .....75 4.00  
quilled .....75 4.00  
Dean Kay, large Cushions; .....60 3.00  
rose-pink .....1.00 6.00  
Glaizer, early double .....1.00 6.00  
Major Cushion, nicest pink .....1.00 6.00  
Cushion .....1.00 6.00  
New Red Cushion (Santa Claus) .....75 4.00  
Pigmy Gold, early yellow Pompon .....75 4.00  
Sept. Cheer, cherry-red double .....1.00 6.00  
Yellow Cushion Supreme .....1.00 6.00  
soft yellow .....1.00 6.00  
Not less than 25 of one variety at the 100 rate.  
Send for complete list.  
**ENGLERTH GARDENS,**  
4652 S. Division Ave. Grand Rapids 8, Mich.

**HARDY CHRYSANTHEMUMS.**  
These are field-rooted divisions and will give utmost satisfaction for potting for spring resale or limited out.

**CUSHION TYPES.**  
Per 100  
\*Bronze Cushion .....\$4.00  
\*White Cushion .....4.00  
\*Santa Claus, Bright red .....4.00  
Yellow Cushion .....6.00

**TALLER, CUT FLOWER TYPES.**  
\*Acacia, Single, yellow, profuse .....4.00  
\*Autumn Lights, New bronze .....4.00  
\*Clara Curtis, Early pink Korean .....4.00  
\*Dean Kay, Early pink .....4.00  
\*Deanna, Rose-pink .....4.00  
\*Ember, Glowing Orange .....4.00  
\*Hebe, Early pink Korean .....4.00  
\*Irene, White pompon .....4.00  
\*Red Kristina, Large Korean .....4.00  
\*Little Bob, Bronze pompon .....4.00  
\*Mrs. Morgan, Large chestnut .....4.00  
\*Ouray, Bronze pompon .....4.00  
\*Pygmy Gold, Yellow pompon .....4.00  
\*Reverell, Indian-red, ENK .....4.00  
\*Seminole, Early white .....4.00  
Above plants, starred varieties only, field clumps, \$2.00 per 10; \$15.00 per 100.

**NEW CUSHION MUMS.**  
Achievement, Apricot tints .....6.00  
Champion Cushion, Red-bronze .....6.00  
Major Cushion, Bright pink .....6.00  
Yellow Supreme, Large early .....6.00  
25 of a variety at 100 rate.  
Minimum field divisions, 25 of a variety.  
**ELKHART NURSERY CO.**  
Elkhart 1, Ind.

**HARDY CHRYSANTHEMUMS.**  
Field divisions. Algonquin, yellow, very good for cut flowers. Champion, bronze; Major Cushion, pink; Dahliaum, purple; Joan Helen, purple with yellow center, \$5.00 per 100. Low-growing cushion type. Red, white, bronze, pink, \$4.00 per 100.  
**GATEWAY NURSERY** New Buffalo, Mich.

**"COLORFUL MUMS."**

Attractive colors that endure are more predominant in selected colorful hardies than any other class of plants. Our selections are wonderfully attractive; sales appeal colors, from deepest to various soft and enduring blends unknown in other flowers.

Growers who desire to participate in profits being made should lose no time in ordering one of our variety selections. Every one a gorgeous, early-to-late blooming assortment of representative varieties, including many of the newest and very best, such as Gov. Duff and Cutie.

ROOTED CUTTINGS, labeled, true-to-name.	
55 each, 20 kinds, 1000 plants.....	\$35.00
25 each, 20 kinds, 500 plants.....	20.00
10 each, 20 kinds, 200 plants.....	12.00
5 each, 20 kinds, 100 plants.....	8.00
50 each, 40 kinds, 2000 plants.....	70.00
25 each, 40 kinds, 1000 plants.....	40.00
10 each, 40 kinds, 400 plants.....	24.00
5 each, 40 kinds, 200 plants.....	16.00

For strong, 2-in. Vita-Band pots add 6c each to above prices. Will harden outside, ready for field planting and counter sales, if you request, which assures no planting loss.

Assortment of 250 newest, popular and most profitable varieties in quantities of 5 to 50, out of hundreds field-tested here at the Floretum, are priced in our 1950 catalog "COLORFUL MUMS," mailed on request.

**PRAIRIE SOUTHWEST FLORETUM**  
Fall River, Kan.

**HARDY CHRYSANTHEMUMS**, plants or divisions, \$4.00 per 100. Ann. Autumn Song, Alabaster, Amber Glow, Autumn Lights, Bridemaid, Border White, Burgundy, Belle Mauve, Cerise Constancy, Caliph, Chippewa, Dahliamum, Daydream, Daily Express, Don Juan, Egypt, Ember, Early Wonder, Erma Linda, Ethel, Empire White, Francis Whittlesay, Glacier, Gold Mine, Geronimo, Harold Larwood, Heatherbloom, Harbinger, Joan Helen, Jean Harlow, Lavender Lady, Lavender Lassie, Le Poctole, Luttonia, Mt. Ranier, Maiden Blush, Mrs. Du Pont, Mrs. Hastings, Mrs. P. Beer, Minong, My Lady, Omaha, Olive Longland, Pink Radiance, Polar Ice, Reveller, Robert Brydon, Red Velvet, Rose Glow, Red Hussar, Silver Ball, Summer Sunset, Sunapee, Santa Claus, The Chief, The Shiek, Tiffany Rose, Tampico, Twilight, Uvalde, Warrior. **HILLVIEW GARDENS**, Fort Madison, Iowa.

**HARDY CHRYSANTHEMUMS** — Early blooming and hardy varieties especially selected for the north. Finest varieties from leading hybridists at Universities of Minnesota, Chicago and New Hampshire and others. List. **PINE-CROFT NURSERIES**, Exeter 3, N. H.

**EVERGREENS****LINERS WITH QUALITY.**

Bare-root Potted	Each	Each
Arborvitae Bluespire .....	\$0.12	..
Gardenia fortunei .....	..	\$0.12
Gardenia Myrtel .....	..	.10
Jasminum nudiflorum .....	.08	..
Jasminum primulinum .....	.08	..
Juniper, Ashford .....	..	.15
Juniperus excelsa stricta .....	..	.18
Juniper, Irish .....	..	.10
Juniper, Kiyono .....	..	.15
Juniper, Sylvester .....	.15	..
Juniper, vase-shaped .....	.10	..
Mimosa, pink .....	.05	..
Mimosa, white .....	.08	..

**VERHALEN NURSERY CO.**  
Scottsville, Texas**YOUR PROFITS GROW IN VERHALEN PLANTS.****PLANTS FOR FHA WORK.**

Miller Pyracantha — Red-fruiting variety, grown from seeds, 24 ins. and larger. Growing in gallon cans, 35c each.

Wax-leaved Ligustrum — Tall, upright kind, propagated from seeds, 24 ins. and better. In gallon cans, 60c each.

Prices given are F.O.B. nursery. Packed four per carton. Many other types of plants available. Visit us at:

**VERHALEN NURSERY CO.**  
1114 So. Beckley Dallas, Texas  
Scottsville, Texas

**YOUR PROFITS GROW IN VERHALEN PLANTS.**

**THUJA TATARICA.**  
1-yr. Thuja orientalis tatarica, 100 seedlings, 3 to 4 ins.....\$3.00 \$25.00  
This arborvitae had nice winter color past season. Withstood 15 below zero. Mostly bluish color. Makes fine, quick-growing Evergreen from seeds.

**THE HARRIS GARDENS**  
Enterprise, Kan.

	Each	Per 100
Irish Juniper, 24 to 30 ins.....	\$1.00	\$96.00
Juniperus communis depressa, 18 to 24 ins.....	1.00	96.00
Nice, bushy plants, 2-yr., field-grown.		
<b>BOURDET FLORAL CO.</b>		
1285 Highway 55	St. Louis 15, Mo.	

**EVERGREEN SEEDLINGS.**

	Per 100	Per 1000
White Pine, 1 to 2 ins.....	\$2.50	\$15.00
Norway Spruce, 1 to 2 ins.....	2.50	15.00
Pinus montana uncinata, 1 to 2 ins.....	2.50	15.00
Packing free. Orders subject to stock.		
Cash with order. C.O.D. orders, 25 per cent deposit.		
Stock below B&B, F.O.B. nursery in lots of 25 or more. No shipping on B&B stock.		

Taxus hicksi, 15 to 18 ins., heavy, xxx	..	\$2.00
Paper Birch, 10 to 14 ft., 2-in. caliper, 24-in. ball	Per ft.	2.00
Colorado Green Spruce, 2 to 4 ft.....	\$0.75	
Colorado Blue Spruce, 2 to 3 ft.....	1.50	
<b>ARMINTROUT'S EVERGREEN NURSERY</b>		
Phone 714 F 12 Allegan, Mich.		

**LINING-OUT STOCK.**

	Per 100	Per 1000
Chinese Pyramid, 1-1.5 to 8 ins.....	\$5.00	\$45.00
Dwarf Oriental, 1-1.5 to 8 ins.....	5.00	45.00
Chinese, 1-1.5 to 8 ins.....	4.00	35.00
Chinese, 2-0, 3 to 6 ins.....	3.00	25.00

**SPRUCE**

Norway, 2-0, 2 to 6 ins.....	2.50	20.00
Norway, 2-1, 2 to 6 ins.....	4.00	35.00
Black Hills, 2-1, 2 to 4 ins.....	4.00	35.00
Black Hills, 2-1, 4 to 6 ins.....	5.00	45.00
Colorado Blue, 2-1, 1 to 3 ins.....	4.00	35.00
Black, 2-1, 2 to 6 ins.....	4.00	35.00
Black, 2-1, 6 to 10 ins.....	5.00	45.00

**PINE**

Muhlo, 2-0, 2 to 4 ins.....	3.00	25.00
Table Mountain, 1-0, 2 to 4 ins.....	2.50	20.00

Terms, 2 per cent for cash with order.  
**JOHN G. ZEIGLER**  
Rt. 2, Box 292 Grand Haven, Mich.

<b>Euonymus patens</b> , large leaf, upright type	Each	
Rooted cuttings, from sand.....	\$0.06	
From 2-in. pots.....	.10	
From 2½-in. pots.....	.15	
<b>Euonymus radicans coloratus</b>		
Rooted cuttings from sand.....	.04	
From 3-in. pots.....	.15	
<b>Pyracantha lalandi</b> , upright, fruiting type		
From 2½-in. pots.....	.15	
From 3-in. pots.....	.25	
Andorra Junipers, from 2½-in. pots.....	.15	
Pfitzer Junipers, from 2½-in. pots.....	.15	
F.O.B. Kansas City, Mo. Cash, please.		
<b>GLASSCOCK BROS.</b>		
6119 Agnes Kansas City 4, Mo.		

**RHODODENDRONS.**

Hybrid seedlings, seeds selected from our own grafted hardy varieties.	Per 100	
4 to 6 ins.....	\$35.00	
2 to 4 ins.....	25.00	
Hardy hybrid grafts. Named varieties.		
Write for list of varieties and prices.		
<b>BOXWOOD.</b>		
<b>Buxus suffruticosa</b> (Old English).	Per 100	
4 to 6 ins.....	\$20.00	
6 to 8 ins.....	35.00	

**The LEVICK NURSERY CO.**  
R.F.D. 3, Bridgeton, N. J.

**Grafts from pots for May, 1950.**

<b>Thuja Columbia</b> (Silvertip).....	Per 100	\$35.00
Thuja occidentalis elegantissima.....	35.00	
Thuja occidentalis lutea Geo. Peabody.....	35.00	
Thuja occidentalis pyramidalis.....	35.00	
Thuja occidentalis rosenhalli.....	35.00	
Thuja occidentalis wareana (Siberian).....	35.00	
No packing charges. 25 per cent deposit on all C.O.D. orders. Complete list of liners on request.		

**VAN DINE NURSERY**  
R.D. 4, Berdan Ave. Preckness, N. J.

**LINING-OUT STOCK.**

	Per 100	Per 1000
<b>Taxus hicksi</b> .....	\$15.00	\$125.00
<b>Taxus cuspidata</b> .....	15.00	125.00
<b>Taxus hatfieldi</b> .....	17.50	150.00
<b>Taxus brevifolia</b> .....	20.00	200.00
<b>Tsuga canadensis</b> , 2-yr. tr., 4 to 6 ins.....	7.00	60.00
3-yr. tr., 6 to 9 ins.....	11.00	100.00
4-yr. tr., 9 to 12 ins.....	16.00	150.00

Complete list of liners on request.  
**VERKADE'S NURSERIES** Wayne, N. J.

**QUALITY LINERS.**

	Per 100	Per 1000
American Holly, 4 to 8 ins., tr.....	\$10.00	
Red-fig. Dogwood, 10 to 15 ins. grafts.....	75.00	
Tamarisk Summer Glow (rare), 12 to 24 ins.....	22.50	
Azalea kaempferi (named), 2-yr.....	25.00	
Pfitzer Spr. Juniper, 4 to 6 ins., tr.....	22.50	
Franklinia (rare), 8 to 12 ins., 2-yr.....	25.00	

Send for new spring list.  
**POSSUM HOLLOW NURSERIES**  
6327 Magnolia St. Philadelphia 44, Pa.

**SALE—15% DISCOUNT—SAVE.**

May 15 to June 15.  
15 per cent off list prices of all stock offered in our April 15 classified ad and also on page 18, which time and conditions prevent us from planting. Cash with order, please; no packing charges.

**JOHN VERHALEN & SON, Inc.**  
Neshanic Station, N. J.

<b>EUONYMUS FORTUNEI ERECTUS.</b>	Per 100	Per 1000
Ideal hedge plant.	\$14.00	\$125.00
Potted liners		
<b>MISSION GARDENS</b>	Techny, Ill.	

**SURPLUS FINISHED STOCK.**

Arborvitae, orientalis compacta, 2 to 4 ft.  
orientalis, 3½ to 4 ft.  
Berkmann, 1½ to 1½ ins.  
Juniper, Irish, 3 to 4 ft.  
Grafted, in variety, 3½ to 6 ft.  
Can still furnish some Taxus.  
**J. C. BUNCH & SON**  
3500 Hulman  
Terre Haute, Ind.

Antigonon leptopus, 2½-in. pots.....	Each	\$0.10
Nerium oleander, agl. white, agl. dark red and dbl. rosea.....	.10	
Plant bands .....	.05	
Ready for immediate shipment. F.O.B. nursery, Cash with order.		
<b>ELLIOTT'S NURSERY</b>		
3811 N. 9th St. Phoenix, Ariz.		

We have several hundred SPECIMEN NORWAY SPRUCE, 10 to 15 ft., well sheared, transplanted three times, \$10.00 each, in the ground. Also some Retinospora, 10 to 12 ft., same price.

**SCHNEIDER'S NURSERY**  
Bowie, Md.

**UNROOTED CUTTINGS OF PFITZER JUNIPER**, 6 to 10 ins. long, not trimmed. Moss packed; express only. \$10.00 per 1000. Cash with order.

**KRONE'S FLOWER SHOP**  
4221 Grand Ave. Fort Smith, Ark.

**COLORADO BLUE SPRUCE.**  
Highest-quality Liners and Finished Trees. Bare roots and B&B; packed for shipment. Write for complete price list.  
**H. W. WEBER**  
16 Summer St. Weston 93, Mass.

**PYRACANTHA.**

Pyracantha formosana, 2½-in. pots, \$10.00 per 100.  
**GRADY WRIGHT NURSERY**  
Dublin, Ga.

**ROOTED CUTTINGS OF PFITZER JUNIPER**, dirt bed rooted, 6 to 10 ins. long, strong. \$15.00 per 100; \$150.00 per 1000. Cash.

**KRONE'S FLOWER SHOP**  
4221 Grand Ave. Fort Smith, Ark.

**RED CEDAR LINERS**—10,000 Juniperus virginiana, 1-yr., 2 to 3 ins., in 2-in. pots, 10c ea., \$100.00 per 1000. Cash, please.  
**LUKE NURSERY** Pauls Valley, Okla.

2000 White Spruce, Norway and White Pines, Andorra. Ideal for roadside stands.  
**EVERGREEN NURSERIES**, Lowell, Ind.

The Trade's Buying Guide—  
The American Nurseryman Ads.

**FRUIT TREES****FRUIT TREES.**

	Each	Per 10	Per 100
<b>APPLE.</b>			
2 and 3-yr., 11/16-in., 5 to 7 ft.....	\$0.60	\$4.50	\$35.00
2-yr., 9/16-in., 4 to 6 ft.....	.50	4.00	30.00
2-yr., 7/16-in., 3 to 4 ft.....	.40	3.00	25.00
Close			
Cortland	Virginia Beauty		
Double Red Delicious	Yellow Transparent		
Double Red Stayman	York Imperial		
Lowry	Yorking, U. S. Patent		
Stayman	No. 126		
<b>PEACH.</b>			
8/16-in., 4 to 6 ft.....	\$4.50	\$35.00	
7/16-in., 3 to 4 ft.....	3.50	27.50	
5/16-in., 2 to 3 ft.....	2.50	20.00	
<b>Indian</b>			
Carman	J. H. Hale		
Crawford's Early	Redhaven		
Dixigen	Shipper's Red		
Dixigen	Slapay		
Fireglow	Southland		
Gage Elberta	Sullivan's Ea. Elberta		
Golden East	Summercrest		
Golden Jubilee	Triogen		
Halehaven			
Heath Cling			

**NECTARINE.**  
4 to 6 ft., \$6.00 per 10, \$50.00 per 100.  
**KIEFFER PEAR.** Each Per 10 Per 100  
¾ to 1-in. cal.....\$0.75 \$6.50 \$50.00  
11/16-in. cal......50 4.50 40.00  
9/16-in. cal......40 3.50 30.00

**LARGE MONTMORENCY CHERRY.** Each Per 10 Per 100  
11/16-in. cal.....\$1.00 \$ 9.00 \$ 85.00  
¾ to 1-in. cal.....1.25 11.00 100.00  
1 to 1½-in. cal.....1.50 12.50 110.00

**PLUM.**  
1 to 1½-in. cal., 7 to 8 ft., \$16.00 per 10.  
Burbank, Red June, Wickson.  
Write for prices on other fruit trees.

**WAYNESBORO NURSERIES**  
Waynesboro, Virginia.

Please mention the American Nurseryman when ordering from advertisements.

**GROUND COVERS**

**VINCA MINOR**—Hardy Myrtle (Periwinkle). For immediate delivery. Individually made up, long canes up to 18 ins. in large clumps, 15 to 30 leads. Very thrifty, prompt shipment, \$37.00 per 1000 clumps. Any quantity, 2 per cent cash discount if check accompanies order.

**H. C. WAUGH**  
736 Green St. Marietta, Ohio

## GROUND COVERS—Continued

**EUONYMUS RADICANS VEGETUS.**  
Per 100 Per 1000  
Strong rooted cuttings.....\$5.00 \$75.00  
PLANE VIEW NURSERY  
Newport, R. I.

**PACHYSANDRA TERMINALIS.**  
Strong, 1-yr., field-grown, \$65.00 per 1000.  
HILLCREST GREENHOUSES Franklin, Pa.

## HARDY PLANTS

**SNYDER'S PERENNIAL SPECIALTIES.**  
Strong, blooming-size plants from open field beds started last spring, unless otherwise described.  
25 at the 100 rate.

Per 100  
Achillea filipendulina, yellow, heavy.....\$4.00  
Coreopsis auriculata nana, dwarf..... 7.00  
Coreopsis Double Sunburst, semidouble..... 3.00  
Daisy Double White Swan, fully double..... 4.00  
Dianthus barbatus Midget, double, mix..... 3.00  
Dianthus deltoideus erecta, red, neat..... 4.00  
Dianthus Loveliness, dainty mauve..... 3.00  
Dicentra eximia, Plumy Bleeding Heart..... 6.00  
Dictamnus albus, 1-yr., blooms 3rd yr..... 5.00  
Dietamus, pink, 1-yr., blooms 3rd yr..... 5.00  
Eupatorium coelestinum, divisions..... 3.00  
Euphorbia corollata, pure white filler..... 3.50  
CAMPANULAS  
All July-sown, therefore light stock.  
Carpatica alba, white..... 3.00  
Carpatica Blue..... 3.00  
Carpatica Dwarf Hybrids, neat, compact..... 3.00  
Cullenmore Kybids, stronger, freer..... 3.00  
Rotundifolia, Bluebells of Scotland..... 3.00  
DELPHINIUM  
All stocky, thinly sown, blooming size.  
Belladonna Improved, light blue..... 3.00  
Belladonna Improved, deep blue..... 3.00  
Blackmore & Langdon's Hybrids..... 4.00  
Lamartine, finest deep blue..... 3.50  
GAILLARDIA  
All July-sown, will bloom well this summer and early fall.  
Aurea pura, pure yellow, 95 per cent true..... 3.00  
Burkundy, wine-red, 76 per cent true..... 3.00  
Goblin, dwarf, red and yellow bicolor..... 3.00  
GYPSOPHILA  
All ideal size for summer blooming.  
Oldhamiana, pink shades, late bloomer..... 3.50  
Pacifica, pink-shades, very late..... 5.00  
Paniculata, misty, single white..... 2.50  
Repens rosea, border or rock plant..... 3.50  
HEUCHERA SANGUINEA  
From flats sown March, 1949; grown outside under lath since June..... 1949  
Bright red..... 4.00  
IBERIS SEMPERVIRENS  
Little Gem, dwarf, true stock, divs..... 4.00  
Snowflake, true, R. C. from open frames..... 3.50  
LILIATIS  
All sure to bloom well this summer.  
Calliopsis, large spike, 3rd early..... 3.00  
Longifolia punctata, 2-ft. spikes, Sept..... 4.00  
Pycnostachya, early hybrids, 3 ft..... 3.00  
Pycnostachya Hybrids, midseason..... 2.50  
Spicata, 30-in. spikes, July, earliest..... 3.00  
Scarions September Glory..... 5.00  
Heliopsis plichiarica, heavy plants..... 3.00  
Lavandula, Munsiead Strain, earlier..... 4.00  
Lilium tenuifolium, 2-yr. bulbs..... 3.50  
Linum narbonneum Heavenly Blue..... 5.00  
Linum flavum compactum, dwarf yellow..... 3.00  
Lychnis chalcidonica, vivid scarlet..... 3.00  
Nepeta mussini, dwarf, lavender border..... 3.00  
Oenothera missouriensis, heavy plants..... 5.00  
PLATYCODONS, DOUBLE BLUE  
Rich blue, double blooms of great substance. Excellent, long-lasting cut flower, all "balloons" opening into perfect flowers after cutting. All true stock; all blooming size.  
2-yr. stock, \$5.00 per 100; 1-yr. \$5.00 per 100.  
PLATYCODONS, DOUBLE WHITE  
Pure, glistening white form of the above; blooms all summer. Lining-out size only, but each plant will bloom this summer..... 4.00  
PLATYCODONS, SHELL-PINK  
Red veins, no trace of blue, 2-yr..... 6.00  
PLATYCODONS, SINGLE  
Grandiflorum, blue, true stock, 2-yr..... 3.00  
Grandiflorum, white, some rogues, 2-yr..... 3.00  
Mariesi, blue, dwarf, deep color..... 5.00  
Pyrethrum, choice double, from seeds..... 7.00  
Phlox Subulata Blue Hill..... 6.00  
Phlox Emerald Cushion Blue..... 7.00  
Shasta Alaska, July-sown, bloom in July..... 2.50  
Saponaria ocyroides Splendens, trailer..... 4.00  
Statice dumosa, for drying or dyeing..... 3.50  
Rudbeckia purpurea (Purple Coneflower)..... 2.50  
Thermopsis caroliniana, heavy plants..... 6.00  
Shipment with or when needed.  
Cash with order, please  
E. J. SNYDER West Milton, Ohio

**PERENNIALS.**  
New and Standard Kinds.  
A most modern and complete selection.  
New Wholesale List now ready.  
Send for your Free Copy Now.  
CARROLL GARDENS  
Box 15 Westminster, Md.

America's Best Source  
for Hardy Plants is  
THE WAYSIDE GARDENS  
Mentor, Ohio  
Write for Trade List.  
Fannies, perennials and rock plants in wide variety. Send for catalog.  
PITZONKA'S PANSY FARM  
Bristol, Pa.

**PHLOX SUBULATA.**  
Our Moss Phlox is wonderful this year. Large healthy clumps at \$1.50 per 10 or \$12.00 per 100. Lining-out stock at \$1.00 for 20 liners of one variety. Any amount over 25 of one variety at 4c each. Write for special prices on quantities of 1000 or more.  
Alba, pure white  
Lilacina, lilac-blue  
Rosea, bright rose  
Phlox amoena, rose-pink, about 12 ins.  
Terms: Cash with order. All plants shipped by railway express.  
KNOLL & WALTERS PERENNIAL FARM  
Rt. 2, Box 95 Zeeland, Mich.

**HARDY PERENNIALS.**  
Strong, rooted divisions, early spring shipment.  
300 at 1000 rate.  
Per 100 Per 1000  
Anthemis Moonlight.....\$8.00 \$75.00  
Hardy Aster  
Beechwood Challenger, bright red..... 6.00 50.00  
Sunset Pink, lavender-pink..... 6.00 50.00  
Helenium Gartensoenne, golden-yellow..... 8.00 75.00  
Polemonium Blue Pearl..... 8.00 75.00  
Lychnia viscaria florepleno..... 8.00 75.00  
PLANE VIEW NURSERY Newport, R. I.

**GYPSOPHILA.**  
Bristol Fairy, grafted.  
Per doz. Per 100 Per 1000  
2 1/4-in. pots.....\$3.00 \$20.00 \$150.00  
25 at 100 rate; 250 at 1000 rate.  
BLUE ACRE GARDENS  
David L. Guenther, prop.  
R. R. 2, Box 162 Fiqua, Ohio

**BLEEDING HEARTS.**  
Per 100  
Dicentra spectabilis, 2 to 5-eye.....\$25.00  
Dicentra spectabilis, 5 to 8-eye and up..... 35.00  
Dicentra eximia, 3 to 5-eye..... 15.00  
Dicentra eximia, 5 to 8-eye and up..... 20.00  
J. HENDRIKS, Grower Portage, Mich.

**SEEDS OF HARDY PERENNIALS.**  
700 varieties and species.  
Offered in our special wholesale price list of perennial seeds, plants. Sent on request.  
REX D. PEARCE, Dept. N, Moorestown, N. J.

**HARDY FERNS.**  
Ostrich, Clayton, Lady and Maidenhair, \$7.00 per 100.  
STRAND NURSERY CO.  
Taylor Falls, Minn.

**HOLLY**  
ILEX OPACA. Large, old, XXXX specimens, 10 to 14 ft. high, 9 to 14 ft. broad, dense over-all. Wonderful root systems in clay; no taps. Balled, platformed and loaded; 1 to 5 tons each. Expert bailing by foreman with 25 yrs' experience. Well berried females, \$65.00 to \$125.00 each. Males, 25 per cent less. Rooted cuttings from best variety types; guaranteed female (berry-bearing), 1 to 2-yr., knocked from 3 to 7-in. clay pots; 4 to 8 ins.; \$225.00 per 1000, 8 to 12 ins., \$500.00 per 1000. F.O.B. Ask for booklet "X-B" Holly.  
EARLE DILATASH, Holly Specialist  
(On Rt. 25) Robbinsville, N. J.

Surplus Stock  
can be easily and quickly turned into Cash  
by listing it in the  
American Nurseryman Classified Ads.

**ROSEBUSHES**  
ROSES.  
2-yr., No. 1, field-grown.  
\$4.50 per 10; \$40.00 per 100.  
HYBRID TEAS.  
Caledonia K. A. Viktoria  
Condest de Santiago Mrs. Chas. Bell  
Edith Nellie Perkins Mrs. Du Pont  
Editor McFarland Pink Radiance  
Etoile de Hollande Pres. Hoover  
Golden Charm Red Radiance  
Joanna Hill Tallman  
POLYANTHAS: Golden Salmon, Ideal.  
CLIMBERS: American Beauty.  
WAYNESBORO NURSERIES  
Waynesboro, Virginia

ROSES—Ready for immediate or later delivery. Fine assortment of northern-grown roses, all carefully graded and packed. Never grew a finer, healthier crop. Quality is our first consideration. Mentor is near Cleveland, most centrally located for the central states, and close to eastern territory. Save long-distance freight charges and shipping risks. Your inquiries will have our prompt attention.  
GERARD K. KLYN, Inc. Mentor, Ohio  
Largest Grower of Northern-Grown Roses in the Central States.

ROSES.  
Arp-grown with life insurance. Write for trade list while variety assortment is still good Texas state pecan trees, black and English walnuts, fig and persimmon. Licensed contract production of All-America roses.  
ARP NURSERY CO.  
Box 867 Tyler, Tex.

ROSES.  
See our display ad on Roses, page 33 of this issue.  
OZARK PLANT FARMS, Inc.  
Seminole Drive Springfield, Mo.

## FIELD-GROWN ROSES.

## NO. 1 GRADE.

Excellent quality in perfect dormant condition.

## HYBRID TEAS, RED

Per doz. Per 100  
California Centennial.....\$13.00 \$100.00  
(Patent rights reserved).....  
Heart's Desire (Pat. No. 507)..... 11.00 75.00  
Nocturne (Pat. No. 713)..... 11.00 75.00  
San Fernando (Pat. No. 785)..... 13.00 100.00  
Will Rogers (Pat. No. 218)..... 8.50 65.00

## HYBRID TEAS, PINK

Babe Ruth (Pat. applied for)..... 13.00 100.00  
Capistrano (Pat. applied for)..... 16.25 .....  
Doug. MacArthur (Pat. No. 631)..... 11.00 75.00  
Pink Radiance..... 7.00 50.00  
Sterling (Pat. No. 21)..... 11.00 75.00  
Tallyho (Pat. applied for)..... 13.00 100.00  
The Doctor..... 7.00 50.00  
Tom Breneman (Pat. ap. for)..... 13.00 100.00

## HYBRID TEAS, YELLOW

Butterscotch (Pat. No. 513)..... 11.00 75.00  
Mrs. E. P. Thom..... 8.50 65.00  
Phyllis Gold..... 7.00 50.00  
HYBRID TEAS, BICOLOR  
Apricot Queen (Pat. No. 464)..... 8.50 65.00  
Countess Vandal (Pat. No. 58)..... 8.50 70.00  
Forty-niner (Pat. No. 792)..... 13.00 100.00  
Hill Top (Pat. No. 526)..... 11.00 75.00  
Taffeta (Pat. No. 716)..... 11.00 75.00

## FLORIBUNDA ROSES

Bright Eyes (Pat. applied for).....  
creamy-yellow Floribunda..... 8.50 65.00  
Cheerio, pink, shading to rose..... 7.00 50.00  
Crown of Jewels (Pat. No. 149).....  
lovely coral-rose..... 8.50 65.00  
Pink Rosette (Pat. applied for)..... 11.00 75.00  
White Finch..... 8.50 65.00

## POLYANTHA ROSES

Cameo, shell-pink and salmon..... 7.00 50.00  
Sparkler, deep crimson..... 7.00 50.00  
HYBRID PERPETUALS  
Arlingana, big, glowing pink..... 7.00 50.00  
George Arends, large pink..... 7.00 50.00  
Mount Everest, crystalline-white..... 7.00 50.00  
Improved Cecile Brunner, peach-pink changing to salmon  
(Pat. applied for)..... 8.50 65.00

## SINGLE HYBRID TEAS

Dainty Bess, shell-pink..... 7.00 50.00  
White Wings (Pat. No. 850)..... 11.00 75.00

## MINIATURE ROSES.

Estrellita, white flowers in clusters..... 6.75 40.00  
Oakington Ruby, double, deep crimson..... 7.50 55.00  
Pixie (Pat. No. 408), white, flushed-pink..... 7.25 50.00  
Pumila, double, rose-pink flowers..... 7.75 40.00  
Roulette, tiny, rose-pink flowers..... 6.75 40.00

## CLIMBING ROSE.

Meda (Pat. No. 518), buff, shrimp-pink..... 13.00 100.00  
25 or more of one kind at 100 rate.  
The WAYSIDE GARDENS CO.  
Mentor, Ohio

## SEEDS

## SAXIFRAGA SEEDS.

Caeppitica, 12 ins.; Hyb. Purple Rose, 8 ins.; Cotyledon, 18 ins. Decipiens grandifl., 12 ins. Tr. pkt., 50c; 1/2 oz., \$1.25; 1/4 oz., \$2.25.

## SEDUM SEEDS.

Acre, 2 1/2 ins.; Alizon, 5 ins.; Selskianum, 6 ins.; Album, 6 ins.; Spium, 6 ins.; Coccineum, 6 ins. Tr. Pkt., 50c; 1/2 oz., \$1.25; 1/4 oz., \$2.25.

## SEMPERVIVUM SEEDS.

Perennial Species, mixed. Tr. Pkt., 50c; 1/2 oz., \$1.50.  
GERMANIA SEED CO.  
6332 N. California Ave. Chicago 45, Ill.

## SHRUBS AND TREES

## LANDSCAPE MATERIAL.

Prices each, in the ground.  
100 American Holly, 10 to 15 ft., \$15.00 to \$25.00.  
40 Chamacyparis plumosa, 12 to 15 ft., \$15.00.  
100 Chamacyparis plaufera aurea, 12 to 15 ft., \$10.00 to \$25.00.  
35 Chamacyparis alifera aurea, 8 to 9 ft., \$20.00.  
15 Chamacyparis alifera, 8 to 9 ft., \$15.00.  
30 Hemlock, 15 to 20 ft., \$15.00 to \$25.00.  
15 to 24 ins. B.R., \$10.00.  
200 Oriental Plane, 4 to 6 ins., \$10.00.  
100 Elm, Chinese and American, 6 to 9 ins., \$10.00.  
25 White Dogwood, 10 to 12 ft., \$10.00.  
STEELE'S POMONA NURSERIES  
Palmyra, N. J.

## PINK DOGWOOD.

20 to 35 ins. B.R.....\$1.75 each  
24 to 30 ins. B.R..... 1.40 each  
18 to 24 ins. B.R..... 1.00 each  
PINK DOGWOOD, liners, dormant, budded fall of 1949, 25c each.

## WHITE DOGWOOD.

3 to 4 ft. B.R......60 each  
2 to 3 ft. B.R......40 each  
IKE HAWKERSMITH NURSERY  
Winchester, Tenn.

## REMOVAL SALE.

On 20 acres of nursery stock. Medium to large sizes of 40 different varieties including Norway Maples, Taxus, Arborvitae, Ginkgo, Oaks and Lindens. Write us for our price list.  
SWAN RIVER NURSERY  
615 E. Main St. Patchogue, L. I., N. Y.



## LINING-OUT STOCK.

Euonymus coloratus, 1-yr. transplants..	Per 100
Euonymus carrierei, 1-yr. transplants..	10.00
Euonymus radiata, 1-yr. transplants..	10.00
ROOTED CUTTINGS.	
Euonymus radiata, well rooted.....	7.50
Euonymus carrierei, well rooted.....	7.50
Euonymus coloratus, well rooted.....	8.00

## HARDWOOD CUTTINGS.

Handmade, 7 ins.	Per 1000
California Privet.....	\$3.50
Amur River North Privet.....	3.50
Lombardy Poplar.....	3.00

Cash, please. No charge for packing.

## PRITCHARD NURSERIES

Rt. 4 Ottawa, Kan.

## SURPLUS LIST.

(Can deliver to Chicago area.)

1000 Wrapped Roses, assorted, 60c ea.	
1000 Potted Roses, assorted.	
300 Apple and Cherry Trees, wrapped and tagged.	
200 Grafted Junipers, canaertl. 4 to 5 ft.; glauca, 4 to 5 ft.; Dundee and keteleeri.	
60 Magnolia Soulangeana, 3 to 4 ft., \$5.00 ea.	

Call Champaign, Ill., 6-5826, collect.  
WILLIAMS HOME NURSERY  
1202 N. Prospect Ave. Champaign, Ill.

## SHADE TREES.

Elm, American, 8 to 10 ft.....	Each Per 10
Flowering Peach, pink and red, 4 to 6 ft.....	\$2.25 \$21.50
Maple, Silver, 8 to 10 ft.....	1.00 9.00
Poplar, Lombardy, 10 to 12 ft.....	1.75 16.00
(\$100.00 per 100).....	12.00

## WAYNESBORO NURSERIES

Waynesboro, Virginia

## SHRUBS.

Abelia grandiflora, 2 to 3 ft.....	Per 10 Per 100
Althaea, asst. colors, 4 to 5 ft.....	\$10.00 \$90.00
Crape Myrtle, purple, red, white, 2 to 3 ft.....	7.50 65.00
Philadelphus coronarius, 4 to 6 ft.....	7.00 65.00
Spiraea billardi, 3 to 4 ft.....	4.50 40.00
Vitex macrophylla, 3 to 4 ft.....	5.00 45.00

## WAYNESBORO NURSERIES

Waynesboro, Virginia

## 2000 BERBERIS THUNBERGII.

In good condition.

Strong, 18 to 24 ins.

\$25.00 per 100.

## WAYSIDE NURSERIES

1630 West Good Hope Rd.

Milwaukee 5, Wis.

## CALIFORNIA PRIVET.

Each	Per 10	Per 100	Each
18 to 24 ins.....	\$0.50	\$4.50	\$0.40
24 to 30 ins.....	.60	5.50	.50

## CENTURY FLORISTS &amp; NURSERY MEN

9906 Carnegie Ave. Cleveland 6, Ohio

## CHINESE CHESTNUT TREES.

Pure, hardy northern strain, 2-yr. trans.	Per 10
2 to 3 ft.....	\$7.50
3 to 4 ft.....	10.00
4 ft., 11/16-in. cal.....	15.00

## WHITFORD NURSERY

Farina, Ill.

Ash, American, each, 8 to 10 ft., \$1.25; 1 1/2 to 2-in., \$1.50; 2 to 3-in., \$2.00. Willow, Laurel Leaf, 8 to 10 ft., \$0.80; 1 1/2 to 2-in., \$1.25. Colorado Spruce, 5 to 8 ft., \$1.00 per ft. The PEQUOT NURSERIES, Brainerd, Minn.

## VEGETABLE ROOTS

## ASPARAGUS ROOTS.

Booking orders for spring delivery.	
Washington, strong, well graded.	
Per 100 Per 1000	
1-year.....	\$1.50 \$12.00
2-year.....	2.50 20.00

## ROUSEBUSH GARDENS

Rt. 1, Box 397 Dayton 3, Ohio

Quick — Convenient — Cheap!

Selling through the Classified Ads

of the American Nurseryman.

## VINES

GRAPEVINES.	Per 25	Per 100	Per 1000
Concord, 2-yr., No. 1.....	\$2.75	\$8.50	\$70.00
Concord, 1-yr., No. 1.....	2.25	7.00	55.00
Predonia, 2-yr., No. 1.....	2.85	9.00	75.00
Predonia, 1-yr., No. 1.....	2.25	7.50	60.00
Niagara, 2-yr., No. 1.....	3.25	10.50	85.00
Niagara, 1-yr., No. 1.....	2.50	8.50	70.00
Delaware, 2-yr., No. 1.....	3.75	12.00	100.00
Delaware, 1-yr., No. 1.....	2.65	9.00	75.00
Agawam, 2-yr., No. 1.....	4.00	13.50	115.00
Agawam, 1-yr., No. 1.....	3.00	9.50	80.00
Caco, 2-yr., No. 1.....	4.50	15.00	135.00
Caco, 1-yr., No. 1.....	3.50	11.00	95.00

All other fruit plants. Send for list.

E. W. Huebner Nursery

Stevensville, Mich.

## GRAPES, 2-yr., No. 1.

\$1.75 per 10; \$15.00 per 100.

Brighton	Little
Champagne	Moore's Early
Delaware	Niagara White
Predonia	Portland

## WAYNESBORO NURSERIES

Waynesboro, Virginia

The trade's market place—

The ads in the American Nurseryman.

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For sale or trade for strawberry plants, evergreen liners or finished stock.

10,000 Newburgh R. Raspberries, Per 1000

No. 1 heavy.....\$38.00

No. 2.....30.00

20,000 New Washington R. Raspberries, Per 1000

No. 1.....40.00

No. 2.....32.00

10,000 Taylor R. Raspberries, Per 1000

No. 1.....38.00

No. 2.....30.00

2000 Red-flowering Quince, 2-yr. well

rooted cuttings, 18 to 24 ins., \$12.00 per 100;

\$100.00 per 1000.

5000 Delphinium P. H. mix. Best strains in

existence, \$22.00 per 100; \$200.00 per 1000;

extra-heavy or potted, \$26.00 per 100; \$230.00

per 1000.

2000 Lupine, 2-yr. trans. Finest color;

mixed Russell strain, \$200.00 per 1000.

WANTED—Gladoli; Roses; Snowball; Vi-

burnum carleai and burkwoodi; Dahlia;

Peony; many varieties of mums, hardy early

strains and cushions; Phlox, named varieties

only and must be dark-foliated; Berckmans

Arboretum, and other stock.

MAYHAN NURSERY

E. 15723 Sprague Ave. Veradale, Wash.

## VIRGINIA HAMS.

Cured by a recipe that has made this man

locally famous for good Virginia hams. Slow-

smoked with green hickory and apple wood.

Slices from 18 to 24 lb. Shipped prepaid until

July 1, \$1.05 per lb.

512 Taylor St. Lexington, Va.

## MAILING LIST.

550 names and addresses of

New Jersey Nurserymen and

Dealers in Nursery Stock.

\$30.00

H. J. JONES

Box 135

Stratford, N. J.

## SUPPLIES

ACE BOXES ARE ACE HIGH.

FLATS, COMBINATION and BULB

BOXES, shipped knocked down or made up,

per 100, F.O.B. Kansas City, Mo.

Inside measure K.D. Made up

16x11 1/2x2 1/2 ins.....\$17.00 \$20.00

18x12x3 1/2 ins.....18.00 21.00

20x14x2 1/2 ins.....23.00 26.00

22x16x3 1/2 ins.....28.00 31.00

Other sizes quoted on request. Orders of

300, deduct \$1.00. Orders less than 100, add

50c. Special prices on 1000 or more. Bottoms

and sides 3/4-in., ends 1/2-in. Good grade lum-

ber. Check must be attached to order. Prompt

delivery.

COMBINATION BOXES.

Priced per 100, F.O.B. Kansas City, Mo.

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12x6x5 ins.....\$12.00 \$14.00

14x8x5 ins.....14.00 16.00

16x6x5 ins.....16.00 18.00

18x6x5 ins.....18.00 20.00

20x8x5 ins.....20.00 21.00

In quantities of 300, deduct \$1.00 per 100.

Less than 100, add 50c.

ACE BOX CO., Inc.

1673 Madison Ave. Kansas City 6, Mo.

Phone: Victor 4494.

Made from a good grade of Southern Yellow

Pine, since ypress is not available.

Standard specifications, inside measurements.

KNOCK-DOWN FLATS.

16x12x2 1/2.....\$18.82 per 100

20x14x2 1/2.....24.98 per 100

20x14x2 1/2.....24.98 per 100

20x14x2 1/2.....24.98 per 100

22x16x3 1/2.....28.14 per 100

22x16x3 1/2.....32.63 per 100

All other sizes quoted on request. Prices

F.O.B. Birmingham.

We are manufacturers, not jobbers. Freight

to any point is a small item per Flat. Our

Flats are the best. Why pay more? Our

quality guaranteed. Prompt shipment, any

quantity. Attach check to order.

We make mixed shipments of flats, plant

boxes and spray boards.

HIGHTOWER BOX &amp; TANK CO.

Birmingham, Ala.

DAHLIA OR TREE LABELS.

Priced per 1000

Plain Painted

3 1/2 x 5 ins., notched, not wired.....\$2.50 \$3.00

3 1/2 x 5 ins., wired, copper.....3.50 3.50

4x5 ins. (cartons 1000 each).....3.00 3.30

5x5 ins. (cartons 1000 each).....3.30 3.30

6x5 ins. (cartons 1000 each).....3.50 4.00

Priced per carton.

8x5 ins. (cartons 500 each).....2.50 3.00

10x5 ins. (cartons 500 each).....2.00 3.50

GARDEN STAKES.

Priced per carton.

8x5 ins. (cartons 250 each).....2.00 2.25

10x5 ins. (cartons 250 each).....2.25 2.50

12x1 1/2 ins. (cartons 100 each).....1.50 1.75

Our labels are perfectly white and smooth

on both sides and are pronounced by growers

the best and most economical.

YOHO &amp; HOOKER

Youngstown 2, Ohio

"TANBARK"—4000 tons at Williamsport,

Pa., via rail, our trucks or loaded on your

trucks at location. Phone Williamsport

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LYCOMING BLOCK

801 Beeber St. Williamsport, Pa.

## ELECTRIC PROPAGATING KITS.

FOR GREENHOUSE BENCHES OR HOT-

BEDS—Each contains long-lasting HEAT-

SUM CABLE, Soil Thermostat, Pilot Lamp

and Thermometer.

Sq. Ft. Length and

Unit Heated Watts Volts No. Units Price

A 20 200 110 1-60 ft. \$13.48

B 40 400 110 2-60 ft. 18.38

D 80 800 110 1-300 ft. 30.68

All prices F.O.B. Seattle

COLDFRAME PROTECTOR PROTECTION—

Same equipment will protect 50 PER CENT

MORE AREA. LITERATURE ON REQUEST.

L. N. ROBERSON CO.

1539 East 103rd St. Seattle 55, Wash.

## TERRA-LITE, SPECIAL PREPARED

VERMICULITE.

Amazing new garden discovery. Proved by

tests at a leading university. Cuttings rooted

from 3 days to 3 weeks sooner, with bigger,

stronger roots! Old-time growers are amazed

with results.

Big bags, approx. 4 cu. ft. or 2 bu.

5 bags, \$5.75; 10 bags, \$11.50; 20 bags, \$23.00.

Sample bag via mail, postpaid, \$2.00.

"We ship same day."

YOHO &amp; HOOKER

Youngstown 2, Ohio

TIDEWATER RED CYPRESS FLATS.

We manufacture our own flats and ship the

same day.

Size 20x15x3 ins. inside measure, 42c each.

The sides and bottoms full 1/2-in. thick. The

ends are 3/4-in. thick. Accurately fitted and

knocked down, 10 complete flats to a bundle.

Genuine dense virgin Cypress the kind that

lasts and lasts.

"Just a little better than the rest."

YOHO &amp; HOOKER

Youngstown 2, Ohio

## NURSERY REQUISITES.

Budding, Grafting Supplies, "TRE-TEX,"

Hydrometers, Hygrometers, Magnifiers, Prun-

ing and Spraying Equipment, Ladders.

Catalog on request.

Since 1900.

TYSON ORCHARD SERVICE

Flora Dale (Adams County), Pa.

## MINNESOTA WHITE CEDAR FLATS.

12x16x2 1/2.....\$18.25 per 100

14x20x2 1/2.....22.00 per 100

14x20x2 1/2.....25.00 per 100

Other sizes quoted on request. Also crating

and other lumber, Aspen and Pine. F.O.B.

Cook, Minn. Please attach check.

H. C. HILL &amp; SONS, Cook, Minn.

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MOSS.

Clean, long-fibered, solidly packed in bur-

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direct from drying beds. None better.

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## CANADIAN PEAT MOSS.

Horticultural, poultry litter, sphagnum

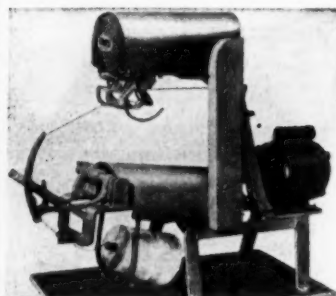
packing moss. Veneer-encased bales; stand-

ard half and quarter sizes. Bulk car ship-

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Barwick, Ontario, Canada



## New 1949 ROTARY MODEL FELINS BUNCH TYER

Sturdier construction, smoother action, for tying all varieties of nursery stock, cut flowers and bunch vegetables at a great saving of time, money, twine.

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## THE NEW BARKER Roller Bearing WEEDER



The  
BARKER  
Weeder-  
Mulcher-Cultivator.  
Saves You Time—  
Saves You Labor—  
Write for  
Literature, sizes and  
new low prices.

The new Barker Weeder, Mulcher and Cultivator has tubular steel handle, ventilated filler drum, adjustable lower knife, dust excluder tube, and 60 degree V type five shovel bar that moves the dirt toward the plants, leaves no ridges and does not trash up so easy. Much easier to use; does far better work. Patented features put it years ahead.

### "Not a Weed Left"

Tend your garden with this NEW BARKER precision built Roller Bearing Weeder, Mulcher and Cultivator. "Best Weed Killer Ever Used." Rotating blades and underground knife destroy weed growth and in same operation break up the clods and crust, aerate the soil, work the soil into a level, moisture-retaining mulch. Any one can use it, do more work than ten men with hoes.

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**Ideal Garden Gadgets...**  
**METAL LABEL MARKERS**  
*Flag... Swing... Duplex*  
SEND FOR DESCRIPTIVE FOLDERS TODAY  
**LANSING SPECIALTIES MFG. CO.**  
721 N. HAYFORD - LANSING 12, MICH

## Coming Events

### MEETING CALENDAR.

May 21 to 23, Florida State Florists and Nurserymen's Association, Palm Beach Biltmore hotel, Palm Beach.

May 21 to 23, Louisiana State Horticultural Association, Community Center, Alexandria.

May 24 and 25, short course for nurserymen, California State Polytechnic College, San Luis Obispo.

June 9 and 10, South Carolina Nurserymen's Association, Poinsett hotel, Greenville.

June 11 to 13, Alabama State Nurserymen's and Florists' Association, Tutwiler hotel, Birmingham.

June 21 to 23, Texas short course for nurserymen, Texas A. and M. College, College Station.

June 25 to 27, Mississippi Florists' and Nurserymen's Association, Hotel Heidelberg, Jackson.

July 15, Ornamental Growers' Association, Hotel Statler, Washington, D. C.

July 15, Fruit Tree Growers' Association, Hotel Statler, Washington, D. C.

July 16, All-America Rose Selections, Inc., Hotel Statler, Washington, D. C.

July 16 to 21, American Association of Nurserymen, Hotel Statler, Washington, D. C.

July 17, National Association of Plant Patent Owners, Hotel Statler, Washington, D. C.

July 17, American Nurserymen's Protective Association, Hotel Statler, Washington, D. C.

July 18, Retail Nurserymen's Association, Hotel Statler, Washington, D. C.

July 18, National Landscape Nurserymen's Association, Hotel Statler, Washington, D. C.

July 18, Association of Nursery Association Secretaries, Hotel Statler, Washington, D. C.

August 3, Indiana Association of Nurserymen, Jackson & Perkins of Indiana, Inc., Richmond.

August 14 and 15, National Mail Order Nurserymen's Association, Hotel La Salle, Chicago.

August 21 to 23, Texas Association of Nurserymen, Rice hotel, Houston.

August 21 to 25, National Shade Tree Conference, Hotel Syracuse, Syracuse, N. Y.

August 22 to 24, Southern Nurserymen's Association, Francis Marion hotel, Charleston, S. C.

August 28 to 30, Northern Nut Growers' Association, Legion hall, Pleasant Valley, N. Y.

August 30 to September 1, Ohio Nurserymen's Association, Zaleski state park, Chillicothe.

September 12 to 14, California Association of Nurserymen, Santa Cruz.

### TEXAS SHORT COURSE.

A short course for nurserymen will be held June 21 to 23 at Texas A. and M. College, College Station, sponsored by the department of horticulture and the Texas Association of Nurserymen.

## WANT ADS

Help and Situation Wanted  
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Display: \$3.00 per inch, each insertion.

Lines: 25¢ line; Minimum order \$2.00.

## HELP WANTED

### Nursery Foreman

To operate propagation greenhouses, nursery salesyard and modern garden supply store on a principal highway in a beautiful section of Virginia. Living quarters furnished. State age, qualifications and requirements in applying.

**WAYNESBORO NURSERIES**  
Waynesboro, Virginia

## HELP WANTED

Plant foreman for landscape work; one who is able to follow blueprints on housing projects. Steady position. Reply, giving experience and salary expected.

**MILLANE NURSERIES  
& TREE EXPERTS, Inc.**  
Cromwell, Conn.

## FOR SALE

New florists' shop, fully stocked and supplied; 3 greenhouses; landscape service and nursery. Fine location in good Colorado city. All tools, stock and equipment. 5-room house, double garage and other buildings. Pictures available. Address Box 724, care of American Nurseryman.

## FOR SALE

Well established landscape, small nursery and maintenance service, excellent location in expanding community, high-class clientele. South Shore Long Island, N. Y. Fully equipped, including 1947 truck, Rototiller, tools, land for growing stock and business headquarters. House optional. Retiring. Write Box 713, care of American Nurseryman.

## FOR SALE

Wholesale and retail nursery. Choice location. 10 to 20 acres level, sandy loam and muck, 10 miles from Erie, Pa., 135,000. Main east and west paved highway. One acre woods and good stream. Good trade in perennials and cut flowers. 36 x 48-ft., two-story block workroom and storage with built cellar. Poor health forces sale. Money-maker for go-getter. Shirkers keep your money. Address Box 723, care American Nurseryman.

## FOR SALE

Nursery in the growing northwest, vicinity of Portland, Oregon, on main highway. 4 acres, 2 greenhouses, 2 slat-houses, 5-room dwelling, good business. This place in A-1 condition. Owner retiring. Full details upon request. Address Box 711, care of American Nurseryman.

**FOR SALE**—Conn. nursery. Large property, well equipped and stocked; fine, large house; established business on main highway. Reasonably priced.  
Unusual greenhouse-nursery and small farm property near Plainfield, N. J. Good dwelling, 10 acres, 4,000 ft. glass, well equipped, excellent condition.  
Write: HORTICULTURAL REALTY, 135-13 No. Blvd., Flushing, N. Y.

## WANTED

### Distributors—Dealers

Fast-selling, soluble, highest concentrate plant food. Formulated by G. T. Newnam.

**NU WAY PLANT FOOD CO.**  
STREATOR, ILL.

### PLAN CALIFORNIA COURSE.

Chairman of the second annual refresher course for nurserymen, to be held at California State Polytechnic College, San Luis Obispo, May 24 and 25, will be Bert T. Kallman, Kallman's Garden Nursery, Santa Barbara. The president of the college, Julian A. McPhee, will welcome the nurserymen to the campus.

The Tri-county chapter of the California Association of Nurserymen will give a barbecue at Poly Grove on the evening of May 24 for those attending the course, and all other meals will be served at the college cafeteria for members of the short course. Reservations for the course can be made by contacting Howard C. Brown, instructor of ornamental horticulture at the college.

The subjects that are scheduled for discussion during the 2-day course include: Ornamental and shade trees best suited for California conditions; research activities and their importance to the nursery business; new shrub introductions; lawn and turf problems; landscaping in connection with nursery practice; ground covers; propagation practices; trends in retail nursery merchandising; advertising and promotion; soil sterilization; use of native plants and shrubs in landscaping; new rootstocks; importance of bud selection in developing better fruit trees; new spray materials and insecticides, and credit and collection problems.

### SOUTHERN MEETING DATE.

The next meeting of the Southern Nurserymen's Association will be held August 22 to 24 at the Francis Marion hotel, Charleston, S. C.

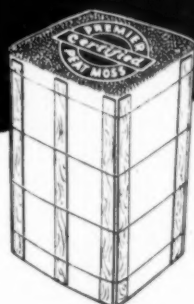
### OHIO SUMMER MEETING.

Members of the Ohio Nurserymen's Association will be the first guests at the new lodge at Zaleski state park, south of Chillicothe, when the association meets there for the annual summer meeting, August 30 to September 1.

About 100 nurserymen and guests will be accommodated at the lodge, which is being built by the division of state forests and parks. They will be able to take advantage of the other park facilities such as boating, fishing and bathing.

Several outstanding guests who will be present at the 3-day meeting are A. W. Marion, director of natural resources; O. A. Alderman, state forester; V. E. Flickinger, chief of the division of state parks, and John

*Get*  
the roots you want  
the results you want  
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**PREMIER**  
*Certified*  
**PEAT MOSS**

### The Peat Moss with the "Growing Reputation"

You can depend on Premier Peat Moss to give you well conditioned soil, strongly established roots and vigorous plant growth.

The reason is that Premier gives you *all* of the advantages of a pure, 97% organic, sphagnum peat moss . . . with capacity to absorb more than any other material . . . completely free of weed seeds, insect life and fungus . . . with an average pH of 4.

Use Premier for all soil conditioning, transplanting and mulching. It gives perfect moisture control about roots—saves water, time and labor. Sell Premier for extra profits—in neat, well packed bales—also 1-bu. and 3-bu. bags for re-packing. Write for details.

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Identified by the BLUE BALE HEAD with the certified seal

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An invention that protects your shrubbery from the menace of destructive corrosive action caused by dogs. Makes the dog's visit so uncomfortable that he keeps away, yet it is so constructed that it will not harm the dog. The SHRUB-GARD is a unit of steel spring wires that are flexible and will not tear clothing of passersby. Each SHRUB-GARD has three prongs and covers approximately two and one half lineal feet.

Harmless to dogs or humans.  
Packed one dozen to a carton, weight 2 lbs.  
Price \$3.00 per dozen.

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Again Available in All Sizes  
For Nursery Cultivation  
And Landscape Work

Mfd. by **SIMAR** Since 1918



"The machine that is copied  
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Write for Complete Details

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### Build Your Own Irrigation System

Using the nozzle that gives adequate irrigation on low operating cost. Covers 40-foot circle on 15 lbs. pressure. Complete even coverage improves yields and quality of crops. Plan and instructions sent upon request.

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The Automatic Drives installed on the wheels of your rototiller permit free-wheeling of the machine at BOTH ends of row and make turning the machine with ONE hand very easy. Reverse models turn under engine power. The "hard-to-stop" Bi-G can be stopped "on the spot" when equipped with Drives. For demonstration and descriptive literature, see your local Rototiller dealer or write direct to:

**AUTOMATIC DRIVE CO.**  
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PROTECT YOUR EVERGREENS, SHRUBBERY, FLOWERS AND LAWN  
Ornamental design adds to beauty of yard or garden.  
Self Supporting—No Stakes or Posts!  
Easy to set up and just as easy to remove.

WRITE FOR LITERATURE AND  
DEALER PRICE LIST  
BROADWAY MACHINE & MANUFACTURING CO.  
SHELBYVILLE, INDIANA

Baringer, chief of division of plant industry.

### NEWARK ROSE FESTIVAL.

The colorful rose festival, featuring more than fifteen acres of modern roses, many of them All-America award winners, will again be sponsored by Jackson & Perkins Co., Newark, N. Y., at its nursery grounds, June 18 to July 4.

A new display feature planned for this year is the four home-size demonstration rose gardens to assist the amateur gardener to design and install his own rose garden. Thousands of hybrid teas, floribundas, climbers and novelties will be in bloom for the festival, which will also feature famous radio stars and special events for entertainment.

### PLANT NOTES.

[Continued from page 19.]

til winter puts it to rest, this catmint can do much to cover up sins of omission and commission, as well as tie together one's most felicitous plantings. In fact, there are few places in sunny borders where *N. mussini*, in broad drifts and trails, will not fit well, brightening up dull associations and toning down harsh ones. And I have a notion that a few suggestive plantings in your show grounds would be the means of selling the plant in dozen and maybe hundred lots instead of the usual single plant sales.

### Mentzelias.

Last year, for the first time in a decade, I had several plants of *Mentzelia decapetala* in the garden, and the pleasant memory of their presence lingers now. The sad part of the matter is that they will not be there this year. It is unfortunate that *mentzelias* are either annuals, monocarpic perennials or tender shrubs. At any rate, that has been my experience with them, though I have not gone through the entire clan. For our present purposes, the subject will be restricted to the herbaceous perennials. The unfortunate part about the latter is their monocarpic nature, which makes them a problem to amateurs.

It is true, of course, that less showy plants of this class are often grown by gardeners, and one cannot tell how his customers will react to any plant until it has been offered or until some time has been allowed for them to observe the plant. Thus, several years ago we grew and sold quantities of two monocarpic kinds, *M. decapetala* and *M. nuda*, not one

## War Surplus—They Stand Up! PLANT BANDS

**\$1.50** PER 1000  
In lots of 10,000



### Convince Yourself with a Trial Order. Then stock up!

Here are ideal Plant Bands! These are War Surplus Ice Cream containers—tough, sturdy and waterproof. Size 2 1/2 x 3 1/2 in. Knocked down and packed in boxes of 1000 for easy storage. Look at these low prices—then get your order in the mail and save real money on your plant bands! 1000... \$1.95 5000... \$1.75 per 1000 2000... 1.85 per 1000 10,000... 1.50 per 1000

F.O.B. Tulsa, Okla.

Less 3 per cent for cash with order.

State how to ship—freight, express or truck.

### SPECIAL OFFER

Nurseries over 1,000 miles distant from our shipping point may deduct 50¢ per 1,000 Plant Bands as Freight Allowance.

Don't Miss Out! Order Now!

**R. E. PEACOCK & CO.**  
727 N. Lewis - Dept. A - TULSA, OKLA.

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### RABBIT REPELLENT

Just what you have been looking for. Ready to use; simply paint it on your trees.

Nonpoisonous.

Five-gallon Drum for \$10.00,  
F.O.B. Philadelphia.

### CRYSTAL BORER REPELLENT

For most species of borers on deciduous trees. Apply as protective measure. Used by leading tree companies.

### CRYSTAL NO-DRI

A scientific wax emulsion. Can be applied with spray equipment. Retards and reduces loss of moisture. Permits transplanting out of season.

Write for free booklets.

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Best • Most Economical for LAWNS • TREES • EVERGREENS  
FREE SAMPLE and MONEY-MAKING PLAN.  
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made from good, used, bright burlap, free from junk — vacuum machine-cleaned. Send your specifications and we will send samples and quote our low prices.

**STERLING BAG & BURLAP CO.**  
41 Carolina St. Buffalo 1, N. Y.

## FERTO POTS

Made of Cow Manure

Plant eats pot. Write for booklet.

Dealers — Agents wanted

**ALLEN CO. PITTSBURGH, N. J.**

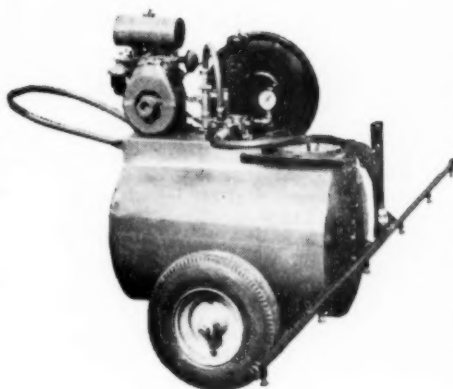
# The HURST 235 UTILITY SPRAYER

**Ideal for Nursery,  
Estate or Garden**

We are distributors for this high-quality equipment.

There's a size or type for every need.

Dealerships available.



Write for literature and prices.

**Also Available**

Hurst larger-capacity utility sprayer.

Robin high-pressure sprayers.

Field and row crop sprayers and booms.

Weed booms (all sizes to 100 ft.).

Fire-fighting equipment.

**NO-WILT PLANT PRODUCTS CO. NORTH OLMSTED, OHIO**

year but year after year to the same customers, who were impressed by their spectacular beauty.

In my opinion, the first of these is much the better plant, and one is well advised when he is told to choose *M. decapetala* if only one kind is to be grown. It has creamy-white fragrant flowers, as much as five inches across. Studded with hundreds of prominent stamens, which someone who had the patience to count said amount to upward of 300, the flower gives the general impression of a water lily. It is at home in dry sandy soil, though it probably does not need sand for its comfort. It will grow there from fifteen to twenty inches tall, while a little more moisture and a fair amount of fertility may double these figures, it is said. It is grown from seeds with ease, but does not move readily because of a long taproot.

The best way we found to handle the mentzelias for sale was in 4 or 5-inch rose pots, selling them when about 3 months old. In other words, the seedlings were potted up in spring when just large enough to handle and were sold from the pots in early summer while the show plants were in bloom. That made a quick turnover and repeat sales every summer to those who were enthusiastic enough about their beauty to replace the plants yearly.

**Calceolaria Mexicana.**

I had intended to hold this note for the article on bedding plants for the neighborhood grower, which I

## EASIER, FASTER WORK

This Garden Shop Hand Truck is so widely used today that few nurseries are without it. Many have several, use one on each delivery truck, others in the nursery.

### IMMEDIATE SHIPMENT

Now you can get this popular truck at once. Speed up work, save labor cost with this practical and especially designed equipment. Sturdy, strong, attractive in appearance, built for many years of profitable service. Order direct, today.

**SPECIFICATIONS**  
Equipped with Jumbo Balloon Tires and Tubes, 12x4 inches.  
Specially Designed Curved Nose.  
All-Steel Construction, electrically welded.  
Weight 44 pounds.  
Over-all Length 63 inches.  
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The popular Garden Shop  
**SMALL HAND TRUCK**

Write for free illustrated folder.

**THE GARDEN SHOP, Inc.**  
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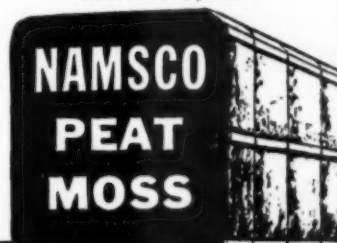
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New Material, Soft, Easy to Tie; Saves Time, Labor and Twine.
- REED MATS for coldframes
- "GIBALTAR" Frost Covers

Write for prices; state requirements.

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SCOTCH, CANADIAN, GERMAN  
Horticultural Peat Moss  
Sizes for every need



Saves hours of digging time . . . costly labor

**NOW!** Plant heavier, wider trees and shrubbery with the **EXTRA-WIDE, 18 to 24-in diameter ROPER Digger.**



Super High-speed Model, \$200 — includes attachments for tractor or jeep and any size auger (8 to 18 ins. in diameter).

Regular High-speed Model, \$195.00 — includes all attachments and any size auger (8 to 24 ins.).

This rugged, durable Roper Digger works perfectly in shale, stony clay, sandstone, any tough soil. Easily installed by one man in 5 minutes; fits any jeep or tractor. Cuts planting and transplanting time way down.

**NO SWING OR SWAY . . .** Stays rigid while digging . . . digs straight or at any angle, adjustable for hillside digging.


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Write for free information and name of nearest dealer. **FULL YEAR GUARANTEE** on all parts and workmanship . . .

**DISTRIBUTOR AND DEALER INQUIRIES INVITED. WRITE TODAY FOR INFORMATION.**

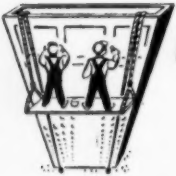
**ROPER** MFG. CO.—DEPT. N  
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E V E R Y T H I N G F O R T H E N U R S E R Y L I N E



Quality

**SERVICE**



Dependability

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West coast and X. X. Superior

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**GOODRICH  
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Write for prices  
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**HALPERN BROS.**

**NURSERY BURLAP**

Squares and Rolls

and  
MESH COTTON NET SQUARES

272 S. 2nd St. Market 3346  
PHILADELPHIA 6, PA.

## AMERICAN NURSERYMAN

asked about and received favorable response on some time ago. However, I have an urgent request from an Indiana reader for some information on the Calceolaria mexicana and so will include it here.

Florists' calceolarias are of little or no interest to the nurseryman, and the so-called hardy ones, like *C. polyrhiza*, are of little value to northern growers. There are a few annual species, however, which might be worked into your schedule if you have the facilities, meaning hotbeds and coldframes, for handling bedding plants. One of these, *C. mexicana*, was so used here for years and would probably prove equally useful to others.

Seeds planted in early April produced plants in bloom when they were set out by mid-June. They were then about six inches high, perhaps because their root run had been restricted to small pots. They took hold immediately, however, and kept blooming until frost, when they were a foot tall and that much across. Their flowers are typical slippers of the calceolarias, yellow in color, and the plants demand close attention to moisture requirements. Other than that they are perfectly easy to grow.

### CATALOGS RECEIVED.

#### WHOLESALE PRICE LISTS.

Champion Nurseries, Perry, O.—Deciduous trees and shrubs, fruit trees and small fruits, roses, peonies and evergreen and seedling lining-out stock; 24 pages and cover, 4x7 inches.

Lake's Shenandoah Nurseries, Shenandoah, Ia.—Fruit trees and small fruits, forest tree seedlings, ornamental trees and shrubs, shade trees, evergreens, roses and perennial plants; 36 pages, 6x9 inches.

Mount Arbor Nurseries, Shenandoah, Ia.—Roses, 12 pages, 6x9 inches.

#### RETAIL CATALOG.

Champion Nurseries, Perry, O.—Fruit trees and small fruits, evergreen trees, ornamental and flowering trees and shrubs, shade trees, roses, peonies and vegetable seeds; 32 pages and cover, 6x9 inches.

#### RETAIL PRICE LIST.

McDonnell Nursery, Oakland, Calif.—Fuchsias, pelargoniums, dahlias, carnations, begonias and chrysanthemums; 6-page illustrated folder, 8 1/4 x 11 inches.

**PURCHASE** of the nursery business at Mentor, Calif., known as Garden & Lawn Supplies, that was formerly operated by Wayne Cehill, has been announced by William D. Drew.

**STARTED** recently, the Sidney Nursery, Twenty-third and Jackson streets, Sidney, Neb., is owned by Bob Lauters and Don Douglas. Mr. Douglas has had fifteen years' experience with a Colorado nursery.



## OBITUARY

### Otis M. Eastman.

Otis M. Eastman, who operated Floradale, Long Beach, Calif., and had previously been in the nursery business under the same firm name at Los Angeles and Cleveland, O., died April 21 at his home at Long Beach.

Mr. Eastman was born at Rochester, Ill., and graduated from the University of Indiana. He joined the garden department of the Cleveland school board in 1918, leaving in 1926 for three years. He then returned to school teaching at Rawlings Junior high school until 1932. Later, in 1939 and 1940, he taught gardening classes under the sponsorship of the Cleveland Press.

While running his nursery business, Mr. Eastman was also in charge of maintaining the grounds of housing projects during the first days of the Cleveland Metropolitan Housing Authority. He moved his firm to California in 1946, first to Los Angeles and then to Long Beach.

Survivors include his widow and a daughter, Mrs. Norman Chapman, of California.

### Joseph A. Matter.

Joseph A. Matter, retired landscape gardener at St. Louis, Mo., died last month at Kansas City, Mo., where he was visiting a daughter, Sister Rita Agnes, who teaches in the parochial schools there.

Mr. Matter, who was 74 years old, was born in Alsace-Lorraine and came to this country in 1903. He settled at St. Louis, Mo., where he operated a landscaping business. When he retired in 1933, he donated the grounds to St. Joseph's Institute for the Deaf. In recent years, he had occupied himself with the landscaping and upkeep of the grounds at the institute.

Surviving, in addition to his daughter, are two sisters, Mrs. Anna Hirtz and Mrs. Elise Morin, Montreal, Que.

**STILL** in the first year of business, Lee Smith's Nursery, 626 Glen Iris drive, northeast, Atlanta, Ga., is growing ornamental evergreens on two acres.

**FORMAL** opening of Bay State Nurseries' new one-acre extension, at Weymouth, Mass., took place April 15. The new nursery, called Nursery Land, includes a sales ground and garden.



**GET RID OF THE  
DEADWOOD  
FAST and EASY  
with  
GENSCO  
BUSHMAN  
PRUNING SAWS**  
(Made in Sweden)

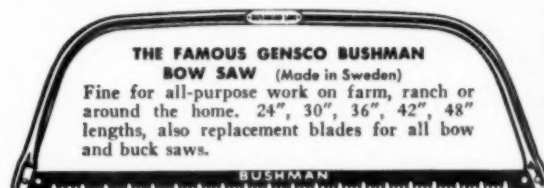


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## NEW PLANT PATENTS.

The following plant patents were issued recently, according to Rummel, Rummel & Snow, Chicago patent lawyers:

No. 926. Rose plant. Eugene S. Boerner, Newark, N. Y., assignor to Jackson & Perkins Co., Newark, N. Y. A new and distinct variety of floribunda rose plant, characterized as to novelty by the color of its blooms; the mass production of blooms; intermittent habit of blooming, and its perfectly shaped flower, which holds its form to the end.

No. 927. Camellia plant. Emmett J. Pfingstl, Montgomery, Ala. A new and distinct variety of camellia plant, characterized as to novelty by the exceptionally long blooming season; the large size, form and color of the blooms, including the form of the individual petals; the intermixture of erect petaloids and stamens; depth of the blooms; vigorous, sturdy habit of growth of hardy plants, with large, broad, dark green, serrated foliage, and lasting qualities of the blooms.

No. 928. Rose plant. Josephine D. Brownell, Little Compton, R. I. A new rose plant variety, characterized by its color pattern, form and color and its wichuraiana traits.

No. 929. Strawberry plant. Oscar E. Felten, East Merchantville, N. J., assignor of one-half to William T. Wilkins, Moorestown, N. J. A new and distinct variety of strawberry plant, characterized particularly by its large, vigorous and healthy plant; its heavy, upright fruit stems; its prolific production, and its large berries of dark red color, mild flavor, firm but fine texture and tough skin protected by prominent seeds.

No. 932. Rose plant. Lee A. Brady, Tyler, Tex., assignor to the Conard-Pyle Co., West Grove, Pa. A new and distinct variety of rose plant, having the same characteristics as its parent (plant patent No. 591) in respect to its foliage, the large size, form and distinctive coloring of its bud and flower, but distinguished therefrom by its strong and vigorous climbing habit.

No. 933. Rose plant. Francis Meilland, Cap Azura, Cap d'Antibes, France, assignor to the Conard-Pyle Co., West Grove, Pa. A new and distinct variety of rose plant, characterized as to novelty especially by the dominating dark red coloring of the flowers and intensity and volume of fragrance thereof.

No. 934. Rose plant. Francis Meilland, Cap Azura, Cap d'Antibes, France, assignor to the Conard-Pyle Co., West Grove, Pa. A new and distinct variety of rose plant, characterized as to novelty by its combination with excellent habits of vigorous growth, floriferousness and disease resistance, of unique color characteristics in the flowers in respect of the sequence of contracting shadings on the petal surface.

No. 935. Rose plant. George Ohlhus, West Grove, Pa., assignor to the Conard-Pyle Co., West Grove, Pa. A new and distinct variety of rose plant, characterized as to novelty by its strong and erect habits of growth and its production of blooms of a rich tinting of pink color tones, very double, large size, of long-lasting quality.

No. 936. Rose plant. George Ohlhus, West Grove, Pa., assignor to the Conard-Pyle Co., West Grove, Pa. A new and distinct variety of rose plant, characterized as to novelty by its vigorous habit of growth, the excellence of form of its flowers, the consistent curl of the petals thereof and the unique coloring of the blooms.

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## ROSE REGISTRATIONS.

Primarily to prevent the duplication of rose names, the American Rose Society, the National Rose Society of Great Britain and the Societe Francaise des Roses recently developed a system whereby registration of a new variety with one organization constitutes its registration with all three. Anyone contemplating the introduction of a new rose should contact the American Rose Society, Harrisburg, Pa., for registration forms.

A list of recent registrations prepared jointly by the afore-mentioned organizations was published in the American Nurseryman for April 1. As in that list, the following varieties, mostly brand-new kinds, are keyed as to classification, abbreviated as follows:

CHT—climbing hybrid tea  
HLutea—hybrid lutea  
HPol—hybrid polyantha  
HT—hybrid tea  
LC—large-flowering climber  
Pol—polyantha  
Shrub—shrub

In the list, the variety name is followed by the classification and then the introducer.

The latest registrations are as follows:

Alaska. HT. Wheatcroft, Nottingham, England.

Aline. HT. Astolat Nurs., Surrey, England.

Betty Free. HPol. Le Grice, North Walsham, England.

Birthday Present. CHT. Toogood, Victoria, Australia.

Blushing Rose. HT. Samuel McGredy & Son, Portadown, Northern Ireland.

Bravo. HT. Armstrong Nurseries, Ontario, Calif.

Cendrillon. HT. Gaujard, Feyzin, France.

Cherry Ripe. Pol. Pacific Nurs., Queensland, Australia.

Climbing Autumn. CHT. Amling-DeVor Nurseries, Inc., Livermore, Calif.

Climbing Douglas MacArthur. CHT. Howard & Smith, Montebello, Calif.

Climbing Editor McFarland. CHT. Rose Glen Nurs., Queensland, Australia.

Climbing George Dickson. CHT. Woodward, Essex, England.

Climbing Golden Charm. CHT. Krider Nurseries, Inc., Middlebury, Ind.

Climbing McGredy's Triumph. CHT. Simmons Nurs., Hertfordshire, England.

Climbing Peace. CHT. Conard-Pyle Co., West Grove, Pa.

Climbing Phyllis Gold. CHT. Fryer's Nurs., Cheshire, England.

Climbing Poinsettia. CHT. Rosemont Nurseries, Tyler, Tex.

Dauntless. HT. Introducer not given (U. S.).

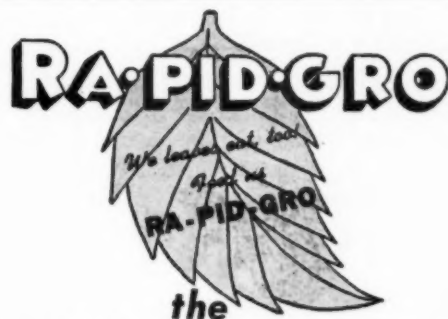
Edith Hazelrigg. HT. Cant, Colchester, England.

Evening. HT. Samuel McGredy & Son, Portadown, Northern Ireland.

Flair. HT. Jackson & Perkins Co., Newark, N. Y.

Fragrant Beauty. Shrub. Bobbink & Atkins, East Rutherford, N. J.

Grandmere Jenny. HT. Meilland, Rhone, France.



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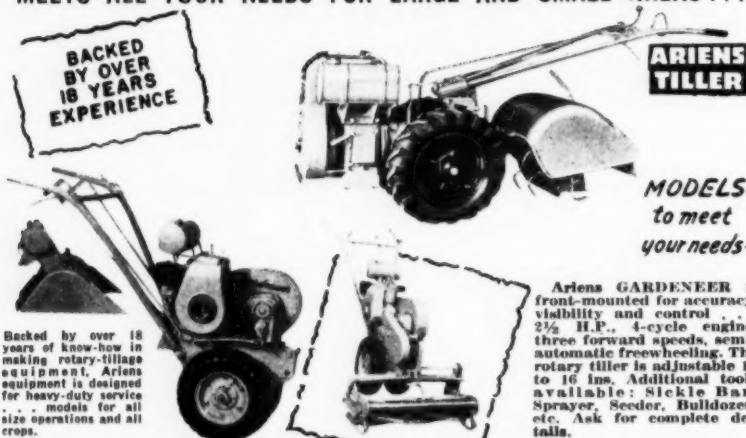


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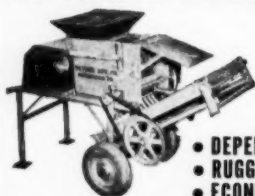
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Nankin. HT. Wheatcroft, Nottingham, England.

Niagara. HT. Introducer not given (U. S.).

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Pacific Triumph. Pol. Pacific Nurs., Queensland, Australia.

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Tapis. HPol. Conard-Pyle Co., West Grove, Pa.

Temptation. LC. Bobbink & Atkins, East Rutherford, N. J.

Valentine. HPol. Armstrong Nurseries, Ontario, Calif.

Veronica. HT. Prossor, Gloucester, England.

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Wendy. Pol. Pacific Nurs., Queensland, Australia.

White Cross. LC. Introducer not given (U. S.).

White Pinocchio. HPol. Jackson & Perkins Co., Newark, N. Y.

Wyralla. HT. Pacific Nurs., Queensland, Australia.

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### ELM AND OAK INSECTS.

[Continued from page 35.]

The elm bark beetle, *Scolytus multistriatus* (Marsh), are tiny reddish-black beetles that gnaw in the crotches of small twigs. The larvae mine and engrave under bark. The bark beetle transmits Dutch elm disease. The elm snout-beetle, *Magdalis barbata* (Say), is a jet-black snout-beetle about a fourth of an inch long. The grubs burrow in the inner bark and sapwood, making galleries about one-and-a-half inches long.

Wide and shallow burrows in the inner bark and sapwood by inch-long grubs are made by the elm borer, *Saperda tridentata* (Oliv). The leopard moth, *Zeuzera pyrina* (Linn.), produces large white larvae with brown spots that tunnel in wood. The adult moths are present from May to September. Dead branches in the top of elm trees are often a clue to the presence.

### Control of Oak Insects.

The oak, which Dr. Langford discussed next, is freer from serious insects than most shade trees. The insects that attack oak and are active in May are cankerworms and the flat-headed apple tree borer, whose adults emerge during May. Two insects hatch their eggs during this month, the European fruit lecanium and the Golden oak scale. Also active during May are walking sticks, white-marked tussock-moth, leaf rollers and aphids.

The adults of the two-line chestnut borer and the flat-headed apple tree borer emerge during the month of June and so measures should be taken for their control then. During June also, the eggs of the flat-headed apple tree borer, the carpenter worm and the leopard moth are laid. Other insects mentioned by the speaker for

revolutionizing insect control  
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June are May beetles, June beetles, gall insects, walking sticks, the yellow-striped oak worm, aphids and spider mites.

The active insects of July, August and September on the oaks are the following: Japanese beetle (July), oak-twig girdler, oak-twig pruner, several kinds of gall insects, the leopard moth which lays eggs during this period, broad-neck prionus, luna moth larvae, cecropia moth larvae, io moth larvae, hag moth caterpillar, aphids, spider mites, leaf miners, oak gall kermes, the saddle-back caterpillar, red-humped oak worm, puss caterpillar, flannel moth caterpillar, walking-sticks and the carpenter worm, which lays its eggs during this time.

Insects that can be controlled by spraying during the dormant season from October to mid-April are: Golden oak scale, European fruit lecanium, obscure scale and oak gall kermes.

## Oak Insects Identified.

Dr. Langford gave brief descriptions of the insects that attack oaks to help nurserymen identify them. The cankerworms, the Japanese beetle, May beetle, leopard moth, spider mites and aphids are also damaging to the elm and were identified earlier by Dr. Langford along with the other insects that attack elm.

The white-blotched oak-leaf miner, *Lithocolletis hamadryadella* are identified by their work on leaves, which are mined, tunneled and blotched. Small active larvae are feeding within each whitish blotch mine in the upper side of the oak leaf. Walking sticks, *Diapheromera femorata* (Say), are usually easily recognized because of their peculiar appearance. Very slender, long, slow-moving, stick-like insects, they are up to three inches long. The young are green, the adults are brown.

The yellow-striped oak-worm, *Anisota senatoria* (S. and A.), are black spiny caterpillars with yellow stripes and two horn-like appendages on the anterior end. The red-humped oak worm, *Symmerista albifrons* (S. and A.), are yellow and black longitudinally-striped caterpillars. Their front legs are orange and their rear legs are red. A large red head and a red wart or tubercle on the eighth abdominal segment are other distinguishing marks.

Large or unusual caterpillars include the following: Luna moth caterpillar, *Tropaea luna* (Linn.), a large pale and bluish-green, white-headed caterpillar with six rows of small pink tubercles or warts; cecropia moth caterpillar, *Samia cecropia* (Linn.), a

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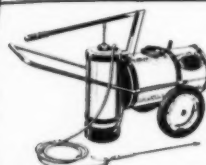
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large, robust, bluish caterpillar that is covered with six rows of prominent red, yellow and blue tubercles and may grow to four inches; polyphemus moth caterpillar, *Teia polyphemus* (Hubn.), large, robust, pale green caterpillar with reddish or brown warts or tubercles which have a silver colored base up to three inches long; io moth caterpillar, *Automeris io* (Fabr.), pale green with reddish stripe, edged below with white on each side of the body and covered with green, black-tipped branching spines, and the saddle-back caterpillar, *Sibine stimulea* (Clem.), broad, spine-bearing caterpillar with a large green center spot, surrounding a purplish spot, edged white.

There are several species of leaf rollers that attack oak, the leaves of which are rolled by small larvae feeding within. The leafhoppers are small, whitish or greenish hopping insects feeding on leaves. They cause stippling with minute white dots. Various shaped enlargements or deformed leaves, twigs and branches result from the gall insects. The oak-twig pruner, *Hypermallus villosus* (Fab.), smoothly cuts from the inside the twigs and small branches that fall to the ground in late summer or fall. In the center of these twig houses is a larva. The oak-twig girdler, *Agrilus arcuatus* (Say), produces small larvae that burrow beneath bark and girdle twigs and small branches. Wilting and dying leaves on scattered branches and dead twigs in the tops of trees are a clue to their existence.

Dr. Langford mentioned two scales: Golden oak scale, *Asterolecanium variolosum* (Rtaz.), tiny golden lecanium-like scales that makes tiny pits in bark scale; obscure scale, *Chrysomphalus obscurus* (Comst.), tiny circular grayish scales that resemble the color of bark and so are easily overlooked; oak gall kermes, *Kermes pubescens*, a scale insect that looks like a globular gall, found on leaf veins and terminal twigs during the summer and on bark during the winter, and the European fruit lecanium, *Lecanium corni* (Bouche), oval, nearly hemispherical, terrapin-like scales.

The carpenter worm, *Prionoxystus robiniae* (Peck.) leaves unsightly scars on large limbs and tree trunks caused by the larva which excavates large tunnels in solid wood. A small flat-headed borer, the two lined-chestnut borer, *Agrilus bilineatus* (Weber), makes burrows under the bark. Nurserymen were warned that their oak trees might be dying as a result of girdling from these numer-

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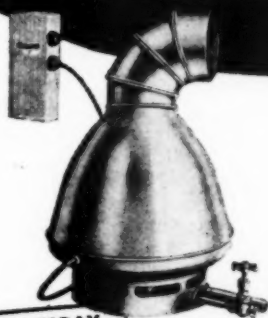
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ous tortuous interwoven galleries. The flat-headed apple tree borer, *Chrysobothris femorata* (Fab.) have white flat-headed larvae that make flattened galleries under bark, mostly in sapwood. They are usually found at the base of a tree and on the larger limbs. This pest usually attacks unthrifty trees.

To conclude his talk, Dr. Langford gave an interesting and effective demonstration which should be of value to arborists in demonstrating to the client the necessity of using several sprays during the season. He displayed a balloon which had been previously smeared with paint. Blowing the balloon up illustrated how the plant parts swell as growth takes place. The paint was much thinner and the smear was broken in numerous places as a result of the increased size. If the spray residue deposited on leaves and other parts of plants is thinned and broken in several places in this manner, they would be almost as susceptible to insect attack as if they were never sprayed.

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